Cognition of Cognition

A COMMENTARY ON PANDIT VISVABANDHU

J. L. SHAW

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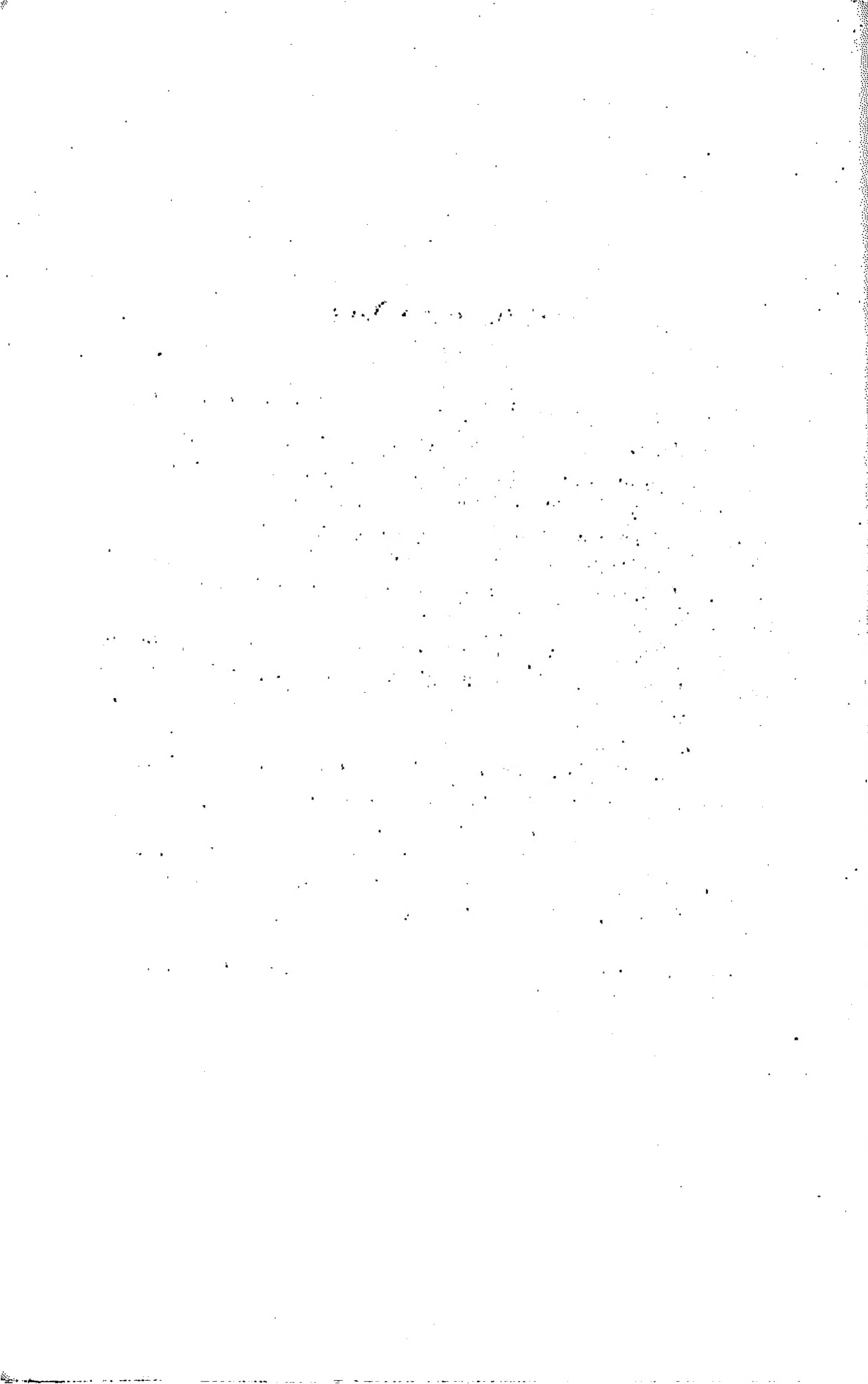
Publisher's Note

It is our privilege to publish this work of collaboration between Pandit Visvabandhu Tarkatīrtha and Professor J. L. Shaw. Pandit Visvabandhu is one of the few living distinguished pandits of the Navya-Nyāya tradition in Indian Philosophy. Professor Shaw, a contributor to several international journals of logic and philosophy, has studied many years with Pandit Visvabandhu. The last five years he has discussed with him all aspects of the pandit's work on Cognition of Cognition, which is the subject of this book.

The problem of 'how we know that we know something' (cognition of cognition) has seldom been dealt with by Western philosophers. It is an important problem for many aspects of life and thought. Pandit Visvabandhu in this book gives us a comprehensive solution to this problem. The thoughtful reader as well as academic scholars will receive much valuable understanding from this publication.

We are grateful to the Kluwer Academic Publishers, Dordrecht, Holland, for giving us permission to print Shaw's article 'Cognition of Cognition', which appeared in two issues of the *Journal of Indian Philosophy* 24:2, pp. 165-207; 24:3, pp. 231-64, 1996.

3 December 1998 **Swami Lokeswarananda**



Preface

The concept of *anuvyavasāya* (cognition of cognition or knowledge of knowledge) is a widely discussed topic in Indian philosophy. All the major systems have emphasized its importance as knowledge is considered to be one of the factors in achieving the highest goal of life. Moreover, you must be aware that you know something before you can use that knowledge. This book is a critical assessment of three views on this subject as found in Indian philosophy.

Cognition of cognition has not been widely discussed in Western Philosophy, ancient, modern, or contemporary. On the other hand, Indian philosophers have dealt with this problem comprehensively. Thus this book adds a new dimension to contemporary Western epistemology.

The book deals not only with higher order cognition, but also with topics such as causality, doubt, perception, and inference in Indian Philosophy. It also includes a new interpretation and classification of fallacies as the author differs from the standard texts such as *Tarkasaṃgrahaḥ* or *Bhāṣāparicchedaḥ*. The discussion on several pairs of terms such as *viśeṣya-viśeṣaṇa, viśeṣya-prakāra, pakṣa-sādhya, uddeśya-vidheya*, etc., will supplement the contemporary discussion which features only one pair of terms, subject and predicate. In the discussion of number the author has compared the Nyāya concept with the three major theories of contemporary philosophers. As a consequence, the Nyāya concept of number can be used to explain certain cognitive differences which cannot be explained in terms of contemporary set-theoretic semantics. In his discussion of the Nyāya, the author has compared and contrasted the word 'only one' with Russell's theory of definite descriptions.

This book is useful not only for understanding Indian Philosophy but also for clarifying or solving some of the problems of contemporary Western philosophy. Hence it is relevant to contemporary epistemology, philosophy of language, and logic as well.

If there is any merit in this book, it is to be attributed to my preceptor Pandit Visvabandhu Tarkatīrtha. For all the faults or shortcomings I am to be held responsible.

J. L. Shaw

COGNITION OF COGNITION

PART I

The word '*anuvyavasāya*'[1] consists of the words '*anu*,' '*vi*,' '*ava*,'[2] the verbal root '*ṣo*' and the suffix '*ghañ*.'[3] Although the verbal root '*ṣo*' signifies the end of an action, yet the complex *vi* + *ava* + the verbal root *ṣo* is used to refer to a cognition[4] which is free from doubt. The suffix '*ghañ*' when used to signify the abstract notion of a verb has no separate meaning other than the meaning of a verbal root which precedes it. Hence the word '*vyavasāya*' which is made out of the words '*vi*,' '*ava*,' '*ṣo*' and the suffix '*ghañ*' together means 'a cognition which is certain or free from doubt.'[5] In his commentary on the *Bhagavadgītā* Ācārya Śrīdharasvāmipāda has interpreted the word '*vyavasāyātmikā*' which has occurred in the sentence '*Vyavaṣāyātmikā buddhirekeha kurunandana*' as '*niścayātmikā*' which means 'a cognition which is certain.' Gautama in his sūtra on perception has given the following definition of perception:

(*Indriyārthasannikarṣotpannaṃ jñānamavyapadeśyamavyabhicāri vyavasāyātmakaṃ pratyakṣam*) Perception is a cognition which is due to sense-object contact,[6] and which is non-verbal, non-erroneous and non-dubious.

In his commentary on this sūtra Vācaspatimiśra, who is well-versed in all the systems, has interpreted the word '*vyavasāyātmakam*' as '*vyavasāyo viniścayo vikalpa ityanarthāntaram*' ('*vyavasāya*' is an alternate word for '*viniścaya*' which means 'certain cognition'). From all these ancient uses and the explanation of the word '*vyavasāya*' it may be concluded that this word means a cognition which is free from doubt.

The word '*anu*' means 'subsequent' (or 'successive'). In contexts such as *anukaraṇa* (imitate), *anuvāda* (translate), *anuja* (younger brother), etc. the word '*anu*' is used to refer to something which has occurred subsequently. Hence the words '*anu*' and '*vyavasāya*' together will

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signify a subsequent cognition which is certain. The use of words such as '*paravarti*' ('subsequent') is always dependent. In other words, the utterance of the word 'subsequent' presupposes something else as preceding it (or its predecessor). In reply to the question "what is being signified as the preceding when we use words like '*anu*,' '*paravarti*' etc.?", it is said that the intention of the speaker determines what is being signified as preceding in a particular context. In other words, if the speaker intends *y* to have the property of being the successor of *x*, then *x* is signified as the predecessor and the word '*anu*' signifies the property of being the successor of *x*. When we use the word '*anuvyavasāya*' what is being signified as preceding is a qualificative cognition and nothing other than that. For, the mental perception of the feeling of pleasure or pain which precedes it (the mental perception) is not called '*anuvyavasāya*.' Hence the intended meaning of the word '*anu*' is not the property of being the successor of any mental state. Moreover, the word '*anuvyavasāya*' is used to signify the mental perception of a dubious cognition, which follows a dubious mental state. From this fact it follows that we cannot say that the word '*anuvyavasāya*' signifies only a mental state whose predecessor is free from doubt, because the word '*anu*' which is part of '*anuvyavasāya*' signifies also the property of being the successor of a dubious mental state. Since the word '*anuvyavasāya*' is used to signify the mental perception of any cognition, dubious or non-dubious, perceptual or inferential, the predecessor of this mental perception will be any qualificative cognition.

The above interpretation of the word '*anuvyavasāya*' signifies a cognition which is certain but follows any cognition. But this interpretation is not appropriate. Because it is not used to refer to a memory-cognition which follows an apprehension (*anubhava*),[7] or an inferential cognition which follows the cognition of an invariable concomitance between two entities, or the cognition of the relation between the referents of expressions which follows the cognition of those expressions. Moreover, the cognition of a cloth, if it follows the cognition of a pot, cannot be referred to by the word '*anuvyavasaya*.'.

Now in order to exclude the above-mentioned memory-cognition, inferential-cognition, etc. from the referent of the word '*anuvyavasāya*' it may be suggested that the word '*vyavasaya*,' which is a part of '*anuvyavasaya*,' means a mental perception the object of which is a cognition, and the entire expression '*anuvyavasaya*' means a mental perception the object of which is a cognition which it follows. But this meaning is also not acceptable as it renders the word '*anu*' useless. For the meaning of the expression 'the mental perception of the cognition

which is its object' virtually entails that the mental perception takes place after the occurrence of the cognition. The object of perception must be accepted as one of the causal conditions[8] for perception, otherwise we have to admit the perception of past or future objects. Hence the cognition which is the object of mental perception is one of the causal conditions for the mental perception. An effect always follows its cause. Since the mental perception of the cognition which is its object entails that the mental perception follows the cognition, the word '*anu*,' which signifies the property of being the successor, becomes redundant.

In order to avoid the above objections the meaning of the entire expression '*anuvyavasāya*' should be accepted as 'the mental perception of the cognition which is its object.' If we accept this meaning, then the possibility of the above-mentioned inconsistencies are ruled out. According to this view, although the word '*anu*' does not have any *independent* meaning, it is not useless because the above meaning cannot be conveyed by the word '*vyavasāya*' alone. Or, the word '*vyavasāya*' means 'the mental perception of the cognition which is its object' and the word '*anu*' is used to signify this intention of the speaker. According to this view also the word '*anu*' is not useless or redundant as it signifies the intention of the speaker to convey this secondary meaning of '*vyavasāya*'. Hence the meaning of the word '*anuvyavasāya*' is to be accepted as 'the mental perception of the cognition which is its object.'[9]

According to the Nyāya, the Vaiśeṣika, and some other systems, the mental perception of a cognition or *anuvyavasāya* is to be accepted in order to reveal a cognition. In this context it is to be noted that among Indian philosophers there are three views about how a cognition is to be revealed (or cognised). These three views are as follows:

1. A cognition reveals itself (or is self-revealing);
2. A cognition is to be inferred from the probans, (or the inferential mark) namely, the property of being cognised;
3. A cognition is the object of a mental perception.

The followers of the Prabhākara Mīmāṃsā, the Vedānta, the Sāṃkhya, the Yoga, the Jaina and the Bauddha systems accept the view that a cognition has the property of being self-revealed. The followers of Bhaṭṭa Mīmāṃsā accept the view that a cognition is to be inferred from the probans, viz., the property of being cognised. The followers of Murārimiśra Mīmāṃsā, the Nyāya, and the Vaiśeṣika claim that a cognition is to be perceived by the mind.

Now it may be said that the cognition or the revelation of an object is necessary for us to desire to acquire useful objects and desist from acquiring harmful objects. Moreover, the cognition of an object is necessary before we may use it. But the revelation of a cognition or the cognition of a cognition is not needed for anything. Hence what is the need for the discussion whether a cognition reveals itself, or is inferrable or can be perceived? Therefore this discussion should be as useless as the discussion about the nature of the teeth of a crow. In reply, it may be said that as the cognition of a pot or a cloth is necessary before we may use the pot or the cloth, so the cognition of a cognition is necessary before we may use the cognition. We use cognition when we utter sentences like 'I understand what you said,' 'I understand your intention.' If a cognition remains unrevealed, then it cannot be used. Hence the revelation of a cognition is not useless.[10]

The upholders of the view that a cognition is self-revealing have raised the following objection against the upholders of the view that a cognition is an object of mental perception. It is said that in order to reveal a cognition, sense-organs, etc., are not needed as causal conditions. Whenever a cognition occurs it reveals itself; a cognition can never remain unrevealed. In other words, as a cognition reveals its object, so does it reveal itself. Hence the conditions which generate a cognition will reveal the same cognition. Since a cognition cannot be revealed by a sense-organ, it is not an object of mental perception. Hence according to this view the mental perception of a cognition or *anuvyavasaya* is impossible.

The supporters of the self-revealing thesis try to use arguments to establish the view that a cognition has the property of being self-revealed. One of the arguments is as follows. Since a cognition reveals its object, its nature is to reveal. If something reveals something else, then it must be capable of revealing itself. If we think that a cognition is needed to reveal another cognition, then we require the cognition of an object such as a pot to reveal a pot, and the cognition of the cognition of a pot to reveal the cognition of a pot, and a third level cognition to reveal the second level cognition; and in this way our life might end with one series of cognitions.[11] There will not be any occasion to have cognition of other objects or other mental states such as feelings of pleasure or pain. Hence a cognition cannot be revealed by another cognition. If a cognition which cannot be revealed by another cognition is not self-revealing, then it is not possible to reveal it. The argument used by the supporters of this view is called 'presumption.'[12] Presumption, according to them, is not reducible to an inference, but

it is a source of valid cognition. The presumption takes the following form:

> *upapādya*: A cognition, which has the property of being revealed, cannot be revealed by another cognition.
>
> *upapādaka*: A cognition has the property of being self-revealed.[13]

Since the Nyāya and some other philosophers do not admit presumption as a valid source of cognition,[14] it is reduced in the Nyāya to a form of *vyatirekī* (agreement in absence) type of inference[15] which will demonstrate the self-revealing nature of a cognition. The inference takes the following form:

A cognition for its use is not dependent on another cognition, because of the property of being a cognition. If something is not independent of another cognition for its use, then it is not a cognition, for example, a pot, etc.[16] It has already been said that we need the cognition of a cognition in order to use a cognition. Now the question is whether we need another cognition which is different from the cognition which is to be used. The supporters of the self-revealing theory do not think that a cognition is dependent on another cognition for its use. But the upholders of the non-self-revealing theory claim that we need another cognition which is different from the cognition to be used, and the cognition to be used is the object of this other cognition. Moreover, this other cognition is considered as one of the causal conditions for the use of the cognition which is its object. For this reason the supporters of the self-revealing theory have taken resort to the above inference in order to decide whether *another* cognition is needed to use a cognition. The supporters of the self-revealing theory claim that there will not be any fault if we admit that a cognition itself is the agent of its use. But if we admit that another cognition, the object of which is a cognition, is necessary for the use of the first cognition, then the above-mentioned infinite regress will occur. Hence the property of being independent of another cognition for the use of a cognition can be established as the probandum of the above inference.

An objection may be raised against the self-revealing theory in the following way. If a cognition is considered as the agent for its own use, then desire should also be considered as the agent for its use. Hence there is no need to consider the cognition of a desire which is its object and which is different from it for the use of a desire.[17] In reply, it may be said that any use is dependent on a cognition. Hence the use of a

desire will also depend on a cognition. Therefore, the cognition of a desire is indispensable for the use of it.

It cannot be said that any cognition is required for any use. If it were so, then the cognition of a pot would permit the use of a cloth. But this does not happen. Hence we have to say that the cognition of a pot is necessary for the use of a pot, the cognition of a cloth is necessary for the use of a cloth, and so on. In this way by introducing the same object both in the cognition which is the cause and in the use which is the effect, we have to consider a cause-effect relation between a cognition and the use of its object. Hence the cognition of a cognition which is its object is to be admitted for the use of a cognition. The initial cognition of a pot is not the cognition of the cognition of a pot. The cognition of a pot is the object of the cognition of the cognition of a pot. Hence the initial cognition of a pot cannot serve our purpose for the use of the cognition of a pot. One of the causal conditions for its use will be the cognition of the cognition of a pot and the cognition of a pot will be the object of this cognition. Hence we have to admit the cognition of a cognition because the use of a cognition presupposes another cognition, the object of which is the former cognition.

As an answer to this objection the supporters of the self-revealing theory claim that the above cause-effect relation between a cognition and its use simply establishes the view that a cognition, the object of which is a cognition, is necessary; but it does not establish the view that the above cognition (i.e. the cognition the object of which is a cognition) is different from the initial cognition. In fact, according to the supporters of the self-revealing theory, a cognition is its own object. Hence there is no deviation from the cause-effect relation between a cognition and its use as the cognition of an object which is to be used and the cognition which gives rise to this use have the same object (or content).

According to the self-revealing theory a cognition by itself is its own object. The following argument supports this view.

If the cognition of an object is capable of leading to our use of that object, then the cognition is of it (or has it as its object). For example, the cognition of a pot is capable of leading to our use of a pot. Hence this cognition has a pot as its object.[18] Since the cognition of a pot is capable of leading to our use of the cognition of a pot, it is a cognition the object of which is the cognition of a pot. It has already been said that according to the self-revealing theory as the cognition is the agent for the use of an object such as a pot, so the same cognition is the agent for the use of itself (i.e., the same cognition). Since a cognition has

the property of being the agent for its use, it has the property of being its own object. The inference takes the following form: A cognition has the property of being its own object, because it has the property of being the agent for its own use.

The supporters of the non-self-revealing theory claim that this inference, namely, a cognition is independent of another cognition for its use because it has the property of being a cognition, is not free from defects. It suffers from the fallacy called '*bādha*.'[19] (In the case of a *badha* fallacy the absence of the probandum resides in the subject of inference). When after reading the writings of an author the reader infers the cognition of the author and makes judgements such as 'The author is wise (or very knowledgeable),' then he uses the cognition which inheres in the author. In this case the cognition of the author also comes under the subject of inference (*paksa*), but it does not have the property of being independent of another cognition for its use, which is the probandum in question. For, if the reader had not inferred the cognition of the author, he would not have been able to use the cognition of the author. In this case since the use of the cognition of the author is dependent upon the cognition of the reader, it does not have the property of being independent of another cognition. Hence the above inference suffers from the fallacy of *badha*. Moreover, when we use previous apprehensions in judgments, such as 'I apprehended such and such things in the past,' which are due to memory-cognitions of previous apprehensions, we cannot consider those previous apprehensions as causal conditions for these uses as they are not present immediately before these uses. Hence the memory-cognitions which are different from the cognitions to be used are considered as causal conditions for the use of those apprehensions. Here also those previous apprehensions come under the scope of the subject of inference (*paksa*). Since they are dependent on other cognitions for their uses, they do not have the probandum, viz. the property of being independent of other cognitions. Hence such inferences also suffer from the fallacy of *badha*.

The above fallacy of *badha* can be prevented if the inference of the self-revealing theory can be altered and formulated in the following way:

The present cognition of a particular person is independent of another cognition of the same person for its use because of the property of being a cognition.[20]

In this case the *present* cognition of a particular person is the subject of inference (*paksa*), and the probandum is the property of being independent of another cognition for the use of the same cognition by

the same person. In the case of the first objection the cognition belonged to the writer, but the use of it was made by the reader. Since the same cognition is not the subject of inference, the fallacy of *bādha* does not occur. In the case of the second counter-example, the cognition to be used is a past one. Since the past cognition does not come within the scope of the subject of inference (*paksa*), this inference does not suffer from the fallacy of *bādha* either.

However, according to the supporters of the non-self-revealing theory this inference also cannot avoid all types of fallacies. It suffers from the fallacy of *vyabhicāra*.[21] For, although the cognition of the above-mentioned author does not come under the scope of the subject of inference (*pakṣa*), it is still the locus of the property of being the cognition which is the probans, and it does not have the property of being independent of another cognition for its use. Therefore, since the property of being the cognition which is the probans is present in the locus of the absence of the probandum, it contradicts the law of invariable concomitance (i.e., the probans become *vyabhicārī*). In the case of the past cognition also the property of being a cognition is present in it, but it does not have the property of being independent of another cognition for its use. Hence the probans deviates from the probandum (*sādhya-vyabhicarī*).[22]

Moreover, the supporters of the non-self-revealing theory claim that a cognition can never be its own object. For, whenever anything becomes an object of a cognition, there is something in the object which acts as a causal condition (*prayojaka*) and makes it an object of a cognition. In philosophical language it is called 'the causative of the property of being the object of a cognition.' For example, a pot is the object of the perception of a pot. The sense-contact which is a causal condition for the property of being the object of perception is present in this pot. Similarly, the sense-contact which is a causal condition for the property of being the object of a cognition is present in a cloth when we perceive a cloth. Thus sense-contact in the object becomes a causal condition for the property of being the object of any perception. In the same way we have to explain the property of being an object of an inferential cognition. That which is accepted as the pervader in an operation (*parāmarśa*) becomes the probandum, and that which is taken as the possessor of the probans pervaded by the probandum in an operation (*parāmarśa*) becomes the subject (*pakṣa*) of an inferential cognition. Hence both the subject of inference (*paksa*) and the probandum become the objects of an inferential cognition.

In an inferential cognition the relation of this cognition to the probandum is the property of being the probandum (*sādhyatā*) and the relation of this cognition to the subject of inference (*paksa*) is the property of being the subject (*uddeśyatā*). Now the property of being the qualificand (*viśeṣyatā*) of an operation (*parāmarśa*) residing in the pervader (*vyāpaka*) is determined by the property of being the qualifier (*prakāratā*) residing in the property of being the pervader (*vyāpakatva*). This property of being the qualificand is a causal condition of the property of being the object of the inferential cognition, and the property of being the object is known as 'the property of being the probandum' (*sādhyatā*).[23] The property of being the object of cognition (*viṣayatā*) residing in the possessor of the probans which is pervaded by the probandum in an operation is known as 'the property of being the property-possessor' (*dharmitva*).[24] This property is a causal condition of the property of being the object which is known as 'the property of being the subject' (*uddeśyatā*) in an inferential cognition.[25]

In the case of understanding the meaning of a sentence or complex expression, the property of being the qualificand residing in the referent(s) in the cognition of the word to its referent(s) is a causal condition of the property of being the object residing in the object of understanding the meaning of a sentence.[26] Thus in every cognition[27] we have to admit a causal condition for the property of being the object of that cognition, otherwise anything could be the object of any cognition. Hence in the case of a visual perception the relation of the visual sense-organ to the object is a causal condition; and this relation is also a casual condition for the property of being the object of the visual perception. Given that this is so, then the visual perception of a pot cannot itself be the object of the visual perception of a pot. For, the visual perception of a pot arises from the contact of visual sense-organ with a pot, and this contact which is a causal condition of the visual perception resides in the pot. The contact with the visual sense-organ can never reside in the visual perception. Hence a visual perception can never be its own object. In favour of this view the supporters of the non-self-revealing theory formulate their inference in the following way:

The visual cognition of a pot is not its own object, because it is not a locus of the contact with the sense-organ which is a causal condition of the visual cognition. For example, a cloth which is not related to (or in contact with) a sense-organ.

Or, the inference may take the following form:

A perceptual cognition is not its own object, because of the absence of the property of being the locus of the relation with sense-organ which is a causal condition of the perceptual cognition.

Now the supporters of the self-revealing theory might claim that as contact with sense-organ is considered as a causal condition of the property of being the object of a perceptual cognition so the self-identity of a cognition might be considered a causal condition of the property of being the object of a cognition. In other words, according to this view, one of the causal conditions of the property of being the object of a perceptual cognition is either the contact with sense-organs which does not reside in the cognition or the self-identity of a perceptual cognition. Although the contact with sense-organs which is a causal condition of perception does not reside in it, a perceptual cognition has self-identity. Hence nothing can prevent a perceptual cognition from being its own object.

But the supporters of the non-self-revealing theory do not consider this argument of the self-revealing theory to be free from defects. The view of the supporters of the self-revealing theory can be stated thus: If it is established that a perceptual cognition is its own object, then the self-identity of it can be considered as a causal condition of the property of being the object of this cognition. But it is doubtful whether a perceptual cognition is its own object. In any dispute a dubious thesis is to be abandoned and by means of an established thesis the cause-effect relation is to be ascertained. Hence we have to admit only the property of being the locus of the contact with the sense-organ (in other words, the contact with the sense-organ) which is non-dubious as a causal condition of the property of being the object of a perceptual cognition. Since the self-identity of a cognition has not yet been established as a causal condition, it cannot be taken as a causal condition. In other words, when one view claims that the causal condition of the property of being the object of a perceptual cognition is either the contact with the sense-organ which gives rise to a cognition or the self-identity of a cognition, and the other view claims that only the contact with the sense-organ is a causal condition of the property of being the object of a perceptual cognition, then those who are not committed to either of the two views would accept that which is common to both the views as the cause-effect relation. The ground for their acceptance is the fact that it is free from any dispute. Hence the self-identify of a cognition cannot be accepted as a causal condition of the property of being the object of a cognition.

Moreover, we have to apply the law of parsimony in this case. When two types of cause-effect relation are possible, but we have to accept either one of them, then the simpler one is to be accepted. In this case one possibility is the contact with the sense-organ or the self-identity of a cognition, and the other possibility is the contact with the sense-organ. On the ground of parsimony we should accept the contact with the sense-organ as a causal condition of the property of being the object of a perceptual cognition, and not the self-identify of this cognition.

EXPLANATORY NOTES

[1] In order to explain the possibility of higher order cognition, the object of which is both the lower order cognition and its object, the Nyāya philosophers postulate an extraordinary relation called '*jñāna-lakṣaṇā-sannikarṣa*' which means 'cognition as a relation.' This relation relates the mental sense organ (*manas*) to the object of a lower order cognition.

In a higher order cognition the immediate lower order cognition is the object. For example, in the cognition of the cognition of a pot, the cognition of a pot itself is the object. This higher order cognition presupposes the relation of the mental sense-organ (*manas*) with the object of this cognition. In this example, the mental sense-organ (*manas*) is related to the cognition of a pot by the relation of conjunction-cum-converse of inherence. Now the question is whether the pot which is the object of the lower order cognition is also an object of the higher order cognition.

The Nyāya philosophers claim that the objects of a lower order cognition are also objects of a higher order cognition. For the pot which is the object of the cognition of a pot is also an object of the cognition of the cognition of a pot. If the pot is also an object of a higher order cognition, then the mental sense-organ must be related to the pot, because, in the Nyāya theory of perception, an external sense-organ is related to an external object when it is perceived. The question is, therefore, how can the mental sense-organ (*manas*) be related to an external object such as a pot?

In order to answer this question the Nyāya philosophers postulate cognition as a relation which relates the mental sense-organ (*manas*) to an external object. In our above example, the cognition of a pot is itself a relation which relates the mental sense-organ (*manas*) to the pot, even if the pot is not present when the higher order cognition occurs. Hence the mental sense-organ (*manas*) is related to the pot by the relation of conjunction-cum-the converse of inherence – cum-the property of being the object of the cognition of a pot. Hence, according to the Nyāya philosophers, in an ordinary perception an external sense-organ is related to the object of perception through an ordinary relation (*laukika sannikarṣa*) such as conjunction or inherence, but in an extraordinary perception a sense-organ is related to its objects through an extraordinary relation. In our above example, the mental sense-organ (*manas*) is related to the pot through the cognition of the pot. Hence in a higher order cognition such as the cognition of the cognition of a pot, the mental sense-organ (*manas*) is related to both our cognition of the pot and the pot itself which is an external object.

[2] The words '*anu*,' '*vi*,' '*ava*,' etc., are prefixes. When they are applied to a verb, the meaning of the verb will be changed.

[3] The suffix '*ghañ*' in such contexts is used to change the form of a verb. For example, the verbal root '*pac*' ('to cook') changes into '*pāka*' ('to cook') when the suffix '*ghañ*' is applied to it. Hence the suffix '*ghañ*' transforms a verbal root into a verb without changing the meaning of it.

[4] According to the Nyāya, a cognition is either qualificative or non-qualificative. Here the author is talking about a qualificative cognition. A qualificative cognition, according to the Nyāya, has the form 'aRb,' where a is the qualificand, b is the qualifier, and R is the qualification relation between them. According to the Nyāya a qualificative cognition is either dubious or non-dubious. When it is non-dubious, it is called 'certain.' Here 'certain' does not signify any ontological necessity. A cognition which is certain is either true or false.

[5] Doubt, according to the Nyāya, is a type of invalid (false) cognition. A dubious cognition can be expressed by the form 'Is x F or G?, where x is the property-possessor, F and G are mutually incompatible properties. Since they are mutually incompatible, one of them may be the absence of the other. As regards the number of alternatives in a dubious cognition such as, Is it a stump or a human being?, there is some difference of opinion among the Nyaya philosophers. But all of them have accepted the thesis that a cognition which is dubious consists of at least two alternatives which are mutually incompatible.

The Nyāya has classified doubts into four different types depending upon the causal conditions of their origins. One of them is due to the observation of some common property or properties of the referents of 'F' and 'G,' and the non-observation of any specific or unique property of the referents of 'F' and the referents of 'G.' For example, Is it a stump or a human being? This type of dubious cognition is due to the observation of some common properties, such as the same or similar height and width, and the non-observation of any unique property which distinguishes a stump from a human being or a human being from a stump. The observation of common properties will give rise to the memory-cognitions of the alternatives which are causal conditions of a dubious cognition.

The second type of dubious cognition is due to the observation of an uncommon property. An uncommon property is something which is known to be not present in the known alternatives. For example, Is sound eternal or non-eternal? In this case soundness is known to be not present in eternal objects such as soul, and in non-eternal objects such as a pot. In this context it is to be noted that in the ontology of the Nyaya sound resides in *ākāsa* (sky or ether) by the relation of inherence. A doubt as to whether sound is eternal or non-eternal presupposes the cognition of some eternal and some non-eternal objects which do not have soundness. If this type of doubt is expressed by the form 'Is x F or G?', then one of the causal conditions of this type of doubt is that x-ness or the property of being x is not known to be present in the known instances of F or G.

The third type of dubious cognition is due to the understanding of the meanings of the words which have occurred in contradictory or contrary sentences. This type of doubt will arise in those who are not committed to one of the alternatives or who do not have certain cognition of one of the alternatives. For example, Is self (soul) eternal or non-eternal? The Buddhists claim it to be non-eternal, but the Nyaya philosophers claim it to be eternal. Hence those who are not committed to either of the views will have doubts about the nature of the soul. This type of doubt will also occur in those who do not have certain cognition corresponding to one of the contrary or contradictory sentences.

The fourth type of doubt is due to the doubt about the truth (or the validity) of a cognition. For example, Is the cognition of a table in this room true? Since there is a doubt about the truth of the cognition of a table in this room, there will be a doubt about the presence of a table in this room. Hence the former doubt gives rise to the latter doubt. If the former type of doubt is expressed by the form:

1. Is the cognition of a being F true (or false)? and the latter type of doubt is expressed by the form;
2. Is a F (or not)?.

then (1) will imply (2). In other words, the doubt about the truth of a cognition will give rise to a doubt about the content of the cognition.

[6] In this context it is to be noted that perception or perceptual cognition has been defined in terms of sense-object contact and the property of being non-erroneous (*avyabhicaritatva*). Sense-object contact is the operation or operative causal condition (*vyāpāra*) of perceptual cognition, and the sense-organ is a special instrumental cause (*karaṇa*) of it. (The distinction between *karaṇa* and *vyāpāra* has been explained in note 8).

In Gautama's definition non-erroneous is also considered as one of the characteristic features of perceptual cognition. A cognition is non-erroneous if there is a pervasion relation (*vyāpti*) which relates the objects of a cognition to the cognition. In other words, the cognition will be true if it is non-erroneous. The other two conditions, viz., non-verbal (*avyapadeśya*) and non-dubious or qualificative (*vyavasāyātmaka*), are used to classify cognitions into non-qualificative and qualificative (or relational). In a non-qualificative cognition the ultimate relata are cognised as such or without being related to anything else, but in a qualificative cognition they are cognised as being related to other objects. Hence it takes the form 'x R y,' where x is the qualificand, y is the qualifier, and R is the relation of the latter to the former and the converse of R is the relation of the former to the latter. In a non-qualificative cognition x and y are cognised as such if they are ultimate relata.

[7] The Nyāya use of the word '*anubhava*' ('apprehension') does not apply to memory (or memory-cognition). According to the Nyāya perception, inference, comparison, and testimony (or verbal cognition) are sources of valid cognitions. If a cognition is derived from, or caused by, perception, inference, comparison or verbal cognition (i.e., from the cognition of words which have occurred in a sentence), then it is characterised by the property of being apprehended (*anubhavatva*). Since a memory-cognition lacks the property of being apprehended, it is not a case of apprehension, although it rests upon some previous apprehension derived from, or generated by, perception, inference, comparison, or verbal cognition. A memory-cognition is due to mental (thought) disposition which is again due to some previous apprehension. Since cognitions are divided into apprehension and memory, 'apprehension' may be defined as 'a cognition different from memory.'

Since there are four types of apprehension depending upon their causal conditions, each of them is characterised by a property which signifies whether it is derived from perception, inference, comparisons, or verbal cognition. Hence the apprehension due to perception (or sense-organ) is characterised by the property of being perceptual (*darśanatva*), the apprehension due to inference is characterised by the property of being inferential (*anumititva*), the apprehension due to comparison is characterised by the property of being comparison (*upamititva*), and apprehension due to verbal cognition is characterised by the property of being verbal (*śābdatva*). The property of being the verbal cognition is the property of being the understanding of the relation of the (primary or secondary) referent of a word to the (primary or secondary) referent of another word. Hence this understanding presupposes the cognition of the referent(s) of an atomic expression. According to the Nyāya the properties of different types of cognition are cognised at the level of mental perception or higher order cognition.

A qualificative apprehension is valid (*pramā*) if it corresponds to a fact, otherwise it is invalid (*apramā*). Validity (*pramātva*) is to be defined in terms of the property of being apprehended (*anubhavatva*) and truth (*yathārthatva*). A memory-cognition will be true if the previous apprehension which is its causal condition is valid. Hence the truth of a memory-cognition presupposes the truth of a previous apprehension. If the previous apprehension does not correspond to a fact, the memory-cognition corresponding to it would be false. Hence a memory-cognition is either true (*yathārtha*) or false (*ayathārtha*). Since the memory-cognitions do not have the property of being

apprehended, they are called 'invalid,' whether true or false. Hence the Nyāya use of the word 'invalid' ('*apramā*') cannot be equated with 'false.'

[8] In this context it is to be noted that the object of perceptual cognition is one of the causal conditions of perception. Since causality is one of the important conceptions of the Nyāya system and since it has been mentioned in several places in this paper, it requires some explanation. According to the Nyāya system every event has a cause or a set of causal conditions. Hence an event is considered as an effect (*kārya*). An effect (*kārya*) is defined as something which is the negatum (counterpositive) of a not-yet type of absence (*prāgabhāva*). But an event has not been defined in the same way. It is defined in terms of the property of being occurrent in time. It may be stated in the following way:

> x is an event Df $(\exists t_1)$ $(\exists t_2)$ (x is related to t_1, but not to t_2), where t_1 and t_2 are temporal segments.

Hence the definitions of 'effect' and 'event' are not identical, although they have the same referents in the ontology of the Nyāya system. Moreover, the word 'effect' (*kārya*) has been defined, unlike some definitions in Western philosophy, without reference to the word 'cause.'

Now let us discuss the nature of a causal condition. The Nyāya philosophers have defined a causal condition in terms of the following three properties:

a) The property being present in the locus of the effect, or the property of being related to the locus of the effect, immediately prior to the effect (*avyavahita pūrvavartitva*),
b) the property of being always present (*niyatatva*), and
c) the property of establishing the effect in a simpler way than other competing condition or conditions (*ananyathāsiddhatva*).

From the first two conditions it follows that if x is a causal condition for the effect E, then x is present immediately prior to E and x is present whenever E occurs. The first condition specifies the temporal sequence, and the second condition specifies the pervader-pervaded relation between them. Since a causal condition is the pervader of the effect, it has the property of being the pervader which is limited by the property of being present immediately prior to the effect. The third condition emphasises the law of simplicity or parsimony in selecting the causal conditions which are equally characterised by the first two conditions, viz., the property of being present immediately prior to the effect and the property of being uniform. Let us illustrate with an example of the Nyāya system:

When an earthen pot is produced there are innumerable conditions which are present immediately prior to this effect. Some of the conditions are such that they are present whenever an effect is produced. The positive conditions such as space and time, which are present whenever an effect is produced, are called 'common causal conditions' ('*sādhāraṇa kāraṇa*'). But there are certain conditions which are present whenever a type of effect such as a pot is produced. The conditions such as the pot-maker, the parts of the pot, the conjunction between the parts of a pot, the potter's wheel, the stick and the thread are present whenever an earthen pot is produced. The conditions of this type are called 'uncommon causal conditions' ('*asādhāraṇa kāraṇa*'). Some of the uncommon causal conditions would vary from one type of effect to another; but the set of uncommon causal conditions for one type of effect would not be the same as the set of uncommon causal conditions for another type of effect. Hence the set of causal conditions for making a pot would not be the same as the set of causal conditions for making a piece of cloth. In addition to these two types of causal conditions, certain unique causal conditions are also present. These unique causal conditions would explain the particularity of

the effect as distinct from the effects of the same type. In our example above, the particularity of a pot is to be explained in terms of the particularities of its parts. Hence in terms of the uncommon causal conditions we can draw the distinction between different types of effect and in terms of the unique causal conditions we can draw the distinction between the effects of the same type.

Now the question is whether the conditions, such as the colour of the stick, stickness, etc. which satisfy the first two causal conditions in the case of a pot, are to be considered causes of a pot. The Nyāya introduces the third condition to eliminate these conditions which satisfy the first two criteria of a cause. This criterion emphasises the simplicity of a causal condition in relation to other competing conditions. Hence the conditions which are simpler than other conditions in certain respect are to be considered as causal conditions. As regards the criteria of simplicity, the Nyāya claims that an object or a property is simpler than another in one of three ways:

a) An object may be simpler than another in respect of quantity. For example, in the case of perception, both the magnitude of the object (*mahatva*) and the property of being present in its several parts by the relation of inherence (*aneka-samavetatva*) equally satisfy the first two conditions. Moreover, the acceptance of any one of them would explain the occurrence of our perceptual cognitions. Now the question is whether one of them is simpler than another in terms of quantity.

   The property of being present in many parts by the relation of inherence is qualified by properties such as manyness, inherence, the property of being present, etc., but the magnitude is qualified by the universal magnitudeness only in the ontology of the Nyāya. Hence the latter is simpler than the former. Therefore, the latter, not the former, is to be considered as a causal condition.

b) An object is simpler than another if the knowledge of the former is simpler than that of the latter. Let us consider the causal conditions of the smell of a flower. According to the Nyāya both the prior absence of the smell and the prior absence of the colour of the flower satisfy the first two criteria of a causal condition; but the knowledge of the prior absence of the smell is simpler than that of the prior absence of the colour. Since we are determining the causal conditions of the smell of a flower, we already know its smell or we know what a smell is. But in order to know the prior absence of the colour we require the cognition of a colour which we may not have. Moreover, the knowledge of a colour alone is not sufficient as we are determining the causal conditions of the smell of a flower. Hence we require the knowledge of the smell in addition to the knowledge of the colour. Therefore, the knowledge of the smell is simpler than the knowledge of the colour or the conjunctive knowledge of the smell and the colour.

c) An object is simpler than another in respect of relation if the relation of the former to the locus of the effect involves fewer relations than the relation of the latter to the locus of the same effect. For example, the relation of the potter's stick to the parts of a pot, which is the locus of the effect pot, involves fewer relations than the relation of the colour of the stick or the generic property of the stick i.e., stickness to the parts of the same pot. The stick is related to the parts of the pot by the relations *S* and *T*, where '*S*' stands for the relation of the stick to the movement of the wheel, and '*T*' for the relation of the movement of the wheel to the parts of the pot. But the colour of the stick or stickness is related to the parts of the pot by the relations *R*, *S* and *T*, where '*R*' stands for the relation of the colour or stickness to the stick, which is the relation of inherence in the ontology of the Nyāya. Hence the stick, not its colour or stickness, is considered a causal condition for making a pot.

Similarly, the father of the pot-maker and the donkey which has brought the clay for making a pot are not considered as causal conditions of any pot or a particular pot even if they satisfy the first two criteria of a cause in the case of a particular pot. Since the pot-maker is a simpler condition than his father, the former is to be considered as a causal condition. Similarly, the lump of clay is simpler than the donkey which has brought the lump of clay. Hence the lump of clay is a causal condition, not the donkey which has brought the clay.

Now let us explain the distinction between the terms 'operation' ('*vyāpāra*') and 'special instrumental cause' ('*karaṇa*'), which are technical terms of the Nyāya system. An operation (*vyāpāra*) is defined in terms of the relation of one causal condition to another. An operation is itself a causal condition, but it is due to another causal condition. Hence it may be defined in the following way:

> x is an operation of the effect E *Df* $(\exists y)$ (y is a cause or a set of causes of E and x is a cause of E, but x is due to y).

In our above example, the movement of the wheel is due to the stick and the pot is due to the movement of the wheel. Hence the relation of the stick to the pot is the movement of the wheel which is due to the stick. For this reason the movement of the wheel is considered an operation. Since the movement is due to the stick, the stick becomes the operation-possessor (*vyāpāravat*). Since the stick is related to the parts of the pot through this operation and becomes a cause by virtue of this relation, it is called '*karaṇa*' ('special instrumental cause'). Hence a *karaṇa* may be defined in the following way:

> x is a *karaṇa* of the effect E *Df* x is a causal condition, x is related to the locus of E through an operation, and it is considered as a cause due to this relation only.

With reference to our above example, two more points are to be noted. Since there are several movements of the wheel, which are due to the stick, there are several operations. Moreover, the wheel is also related to the parts of the pot through the movements which are due to the wheel, and the wheel becomes a cause due to this relation. Hence the wheel is also regarded as a special instrumental cause (*karaṇa*). Therefore, in this case, there are at least two special instrumental causes and several operations through which special instrumental causes are related to the parts of the pot. So this is an example of many-many relation between operations and special instrumental causes. In this context it is to be noted that, according to the Nyāya, all the four types of relation, viz., (1) many-many, (2) one-one, (3) many-one, and (4) one-many, hold good between operation and special instrumental cause depending on the examples of causation. Our above example illustrates the many-many type of relation, but the following examples would illustrate the remaining types of relation.

In the case of felling the tree by striking an axe with certain velocity, the operation is the contact between the axe and the tree, and the special instrumental cause is the axe. Hence it is an example of one-one relation between an operation and a special instrumental cause. The wood-cutter or the agent is not a special instrumental cause as it (special instrumental cause) is determined by the agent. Hence in determining a special instrumental cause we have to exclude the agent. The agent is simply an instrumental cause (*nimitta-kāraṇa*), but not a special instrumental cause (*karaṇa*).

When a piece of cloth is made by conjoining several threads together, the conjunctions between the threads would be the operations and the loom (*vemā*) of the weaver would be the special instrumental cause. So it would be an example of many-one relation between the operations and the special instrumental cause.

The act of cooking might be used to illustrate the one-many relation between the operation and the special instrumental causes. The fire or the heat would be the operation and the logs of wood or the pieces of coal used in generating this fire would be the special instrumental causes of cooking.

From the above discussion it follows that there is at least one operation and at least one special instrumental cause according to the Nyāya theory of causation. The operation is defined in terms of the relation between causal conditions, and the special instrumental cause is defined in terms of the operation and the relation between a causal condition and the locus of the effect.

The Nyāya has also classified the causal conditions into three different types. The principle of division is the relation between a causal condition and the locus of the effect. In our first example, a pot is the effect and it resides in its parts. Now we have to consider the relation between a causal condition and the parts of a pot. Since a part of a pot is also a causal condition, it is related to the locus of the effect by the relation of identity. According to the Nyāya a causal condition which is related to the locus of the effect by the relation of identity is an inherent cause (*samavāyī-kāraṇa*).

Another type of causal condition known as 'similar-to-inherent cause' ('*asamavāyī-kāraṇa*') is defined in terms of the relation of inherence, direct or indirect. If a causal condition inheres in the inherent cause of an effect, it is called 'similar-to-inherent cause.' In our above example, the relation of conjunction between the parts of a pot inheres in the locus of effect. Hence it is called 'similar-to-inherent cause.' But if we consider the causes of the colour of an object, then the similar-to-inherent cause is related to the locus of the effect by two relations, namely, inherence and the converse of inherence. If we consider the colour of a pot as the effect, then its locus is the pot. The colour of the parts of this pot is a causal condition of the colour of the pot. The colour of the parts is related to the parts by the relation of inherence, and the parts are related to the pot by the converse of the relation of inherence. Hence the colour of the parts is related to the pot by the relation of inherence and the converse of inherence.

In this context it is to be noted that both the types of causal conditions in our two examples are called 'similar-to-inherent causes' for two reasons. (a) The inherent cause is not only immediately prior to the effect, but also remains as long as the effect remains. The similar-to-inherent cause shares this feature with the inherent cause. Hence it also remains as long as the effect remains. (b) The destruction of the inherent cause leads to the destruction of the substance which is an effect. Similarly, the destruction of the similar-to-inherent cause leads to the destruction of the substance which is an effect.

The third type of causal condition is called '*nimitta-karana*' ('instrumental cause'). If a causal condition is related to the locus of the effect by a relation other than identity, or inherence, or inherence and its converse, then it is an instrumental cause. Hence, in our above example of a pot, the pot-maker, the stick, the wheel, the lump of clay, etc., would be instrumental causes of a pot.

In the case of a perceptual cognition, the perceiver (or the self or the soul), the internal sense-organ (*manas*), the external sense-organs such as eyes, the object(s) of perception, the sense-object contact, etc., are causal conditions. The object of perception is an uncommon causal condition, but it is neither the operation nor the special instrumental cause. The operation is the sense-object contact, and the special instrumental cause is the sense-organ. A perceptual cognition like all other types of cognition occurs in the self (soul) and it is related to the self by the relation of inherence.

Instead of considering the self as the locus of perceptual cognition to which all the causal conditions are related, the Nyāya considers the object of perception as the locus on the ground of simplicity. If we take the self as the locus of perceptual

cognition to which all the causal conditions are related, then the description of the relations between the locus and the causal conditions would be more complex than if we take the object of perception as the locus, although all of them are related to each other. Hence the word 'locus' in this context does not mean the substratum. It simply means something to which both the effect and the causal conditions are related.

The sense-object contact which is the operation of a perceptual cognition resides in both the sense-organ and the object. But the sense-organ is related to the object through this operation, and is considered as a cause by virtue of this relation. Hence it is the special instrumental cause (*karaṇa*) of perception. The object of perception is also characterised by the same operation, but it is not considered as a cause by virtue of this relation, because the relation of identity which is much simpler than the relation of operation can explain its causal role. Hence on the ground of simplicity sense-organ alone is considered as the special instrumental cause of perception. Since the Nyāya philosophers have explained the difference between different types of cognition or mental phenomena in terms of causation, the terms such as 'operation' and 'special instrumental cause' have special significance in their system.

9 In this paragraph the author has suggested two alternatives such that each of them would lead to the conclusion that the word '*anuyvavasāya*' means 'the mental perception of the cognition which is its object.' The first alternative considers the word '*anuvyavasāya*' as one expression and assigns this meaning to it. Since the word '*vyavasāya*' cannot convey this meaning, the expression '*anu*' which is a part of '*anuvyavasāya*' is not useless.

The second alternative considers the word '*anuvyavasaya*' as consisting of the words '*anu*' and '*vyavasāya*.' Since the primary meaning of the word '*vyavasaya*' is 'a qualificative cognition,' it cannot have another primary meaning (*śakyartha*), viz., 'the mental perception of the cognition which is its object,' unless it is a homonymous expression. Hence the author suggests that the secondary meaning (*lakṣyartha*) of the word '*vyavasāya*' may be taken as 'the mental perception of the cognition which is its object.' Now the question is how to indicate this secondary meaning of the word '*vyavasāya*.'

According to the Nyāya theory of meaning, in order to indicate a secondary meaning we require either another expression or a context for its use. Here the author claims that the word '*anu*' can be used to signify the fact that the word '*vyavasāya*' has been used in its secondary sense. Since the word '*anu*' signifies this intention of the speaker, it is not useless.

10 In this paragraph the author has pointed out the utility or the relevance of this topic. The classical Indian philosophers have emphasised the relevance of their discussion. Hence they have introduced different types of relevance and have pointed out the types of relevance between different topics of their systems. The author of this paper has also raised this point in his discussion of the cognition of cognition.

Relevance is a relation between the contents of expressions or sentences *via* some questions. It may be stated in the following way:

If P is relevant to O, then O is an answer to a question S which is due to a cognition T, and the content of this cognition is the relation of relevance.

The question raised by the author about the utility of our discussion of cognition of cognition would correspond to S and the answer would correspond to O. The previous discussion about the cognition of an object for its use would correspond to P. The content of the cognition which gives rise to the question would be the relation of relevance.

Gaṅgeśa has mentioned six types of relation of relevance. The relevance of the above discussion would come under *upodghata saṅgati* (justification type of relevance) as the author attempts to justify the relevance of the cognition of a cognition.

[11] This argument of the supporters of the self-revealing theory may be presented in the form of a dilemma. If a cognition is required to reveal another cognition, then there is an infinite regress. If there is an infinite regress, then the cognition of anything else is not possible. If, on the other hand, the regress stops at a particular point, then all the previous cognitions would remain unrevealed.

Let us consider the cognition of a pot. In order to reveal this cognition, we require the cognition of this cognition, which is a second level cognition. If the regress stops at the second level cognition, then it remains unrevealed. If it is unrevealed, then the cognition of a pot remains unrevealed. As a result, the pot would not be revealed. Since there are only two alternatives and both of them are unsatisfactory, the non-self-revealing theory is to be rejected.

[12] According to the Mīmāṃsā and the Vedānta presumption (*arthāpatti*) is a valid source of cognition. But according to the Nyāya it can be reduced to an inference. Hence the difference between these two views will depend up the nature or the definition of 'inference.' The well-known example of presumption is the following:

The fat Devadatta does not eat during the day. He eats at night.

The former is called '*upapādya*' ('effected or to be effected'), and the latter '*upapādaka*' ('effecting or causing to occur'). Presumption (*arthāpatti*) is the cognition of *upapādaka* from the cognition of *upapādya*. The cognition of *upapādya* is the *karaṇa* (special instrumental cause) of the cognition of *upapādaka*. The relation between them takes the following from: Unless we accept *upapādaka* we cannot accept *upapādya*. Hence in a sentence, of the form: There cannot be P without O, P is the *upapādya* and O is the *upapādaka*. The cognition of this implication is called '*anupapatti*.' The cognition of this implication, if it is true, is the *karaṇa* (special instrumental cause) of the truth of the cognition of *upapādaka*. In other words, the truth of the cognition of *upapādaka* depends upon the truth of *anupapatti* (i.e., the cognition of this implication).

In an inferential form both *upapādya* and *anupapatti* would be premises and *upapādaka* would be the conclusion. Hence the inference takes the following form:

P, and $\sim O \supset \sim P$; therefore O,

where 'P' corresponds to *upapādya* and 'O' to *upapādaka*, and '$\sim O \supset \sim P$' to *anupapatti*. The relation between *upapādaka* and *upapādya* is not always one of causality. In our above example, there is a causal relation between them, but in the following example there is no causal relation between them:

upapādya: Devadatta who is alive is not at home.
upapādaka: He is outside.

However, in all cases, the relation of implication between the absence of *upapādaka* and the absence of *upapādya* will hold good.

[13] The *anupapatti* (implication) of this presumption would take the following form: The revelation of a cognition cannot be established unless it has the property of being self-revealed.

[14] In this context it is to be noted that there is a substantial difference of opinion among the different schools of Indian philosophy as to the sources of valid cognition. For the Cārvāka (a type of materialist) philosophers, perception is regarded as the only source of valid cognition. The Bauddha and the Vaiśeṣika philosophers accept both perception and inference as sources of valid cognition. The Sāṃkhya, Rāmānuja and Bhāsarvajña accept perception, inference, and verbal testimony; the Nyāya accepts perception, inference, comparison, and verbal testimony. But the followers of the Prabhākara school of Mīmāṃsā accept presumption in addition to the four sources

accepted by the Nyāya. The followers of the Kumārila Bhaṭṭa school of Mīmāṃsā and the Advaita Vedānta accept non-apprehension (*anupalabdhi*) in addition to the previous five sources of valid cognition. The followers of the Purāṇas accept two more, namely, entailment (*sambhava*) and tradition (*aitihya*). The followers of the Tantra accept gesture and posture (*ceṣṭā*) in addition to the eight other sources of valid cognition. The Jaina philosophers have accepted two more sources of valid cognition, namely, the use of a type of counterfactual conditional (*tarka*), and memory (*smṛti*).

Since the Nyāya philosophers do not accept presumption as a source of valid cognition, it is reduced to agreement in absence type of inference (*vyatirekī-anumāna*). Similarly, non-apprehension is reduced to perception, entailment to inference, tradition to verbal testimony, and gesture (or posture) to inference. But *tarka* is not reduced to an inference. It gives rise to an inference and thereby becomes auxiliary to an inference. Similarly, memory is not reduced to some other source of valid cognition. But the truth of a memory-cognition depends upon the truth of a previous apprehension which is derived from perception, inference, comparison, or verbal testimony.

[15] Since presumption is reduced to *vyatirekī* (agreement in absence) type of inference, the Nyāya view of inference and its classification require some explanation in this context. An inference involves three terms, viz., *sādhya*, *pakṣa* (locus of inference), and *hetu*. The term '*sādhya*' refers to what is to be inferred. In other words, it refers to the predicate (*vidheya*, not the *viśeṣaṇa*) of the inferential cognition which corresponds to the conclusion of an inference. The term '*pakṣa*' refers to the locus where there is some doubt about the presence of the *sādhya* (*sandigdha-sādhyavān pakṣaḥ*). Since the *pakṣa* has *pakṣatā* (a special relational property of the *pakṣa*, which is due to its relationship to a dubious cognition), the term '*pakṣatā*' signifies some doubt about the presence of the *sādhya* in the locus of inference. The term '*hetu*' (or '*liṅga*') refers to the reason by means of which the *sādhya* is inferred in the *pakṣa*. The validity of an inference depends on certain characteristics of the *hetu*. These characteristics have been mentioned in note 19. Since the terms '*sādhya*' and '*hetu*' are usually translated as 'probandum' and 'probans' respectively, we shall follow this convention.

An inference, according to the Nyāya, is a cognition which results from certain other cognitions. Hence it may be defined in terms of its causal conditions. Since an inferential cognition is a quality of the cogniser, it inheres in the self of the cogniser. Hence the cogniser is the inherent cause (*samavāyī-kāraṇa*) of an inferential cognition. Since in the Nyāya system a cognition is due to the contact of the mental sense-organ (*manas*) with the self, the contact (i.e., the relation of conjunction) is the similar-to-inherent cause (*asamavāyī-kāraṇa*) of an inferential cognition.

In addition to these two types of causal conditions, an inferential cognition has certain instrumental causal conditions (*nimitta-kāraṇas*) such as *parāmarśa* (operation), *vyāptijñāna* (the cognition of invariable concomitance between the probans and the probandum), and *pakṣatā* (a special relational property of the locus). An inferential cognition is usually defined in terms of *parāmarśa* (operation) and *pakṣatā* (a special relational property of the locus).

Parāmarśa (operation) is defined as the cognition of the presence of the probans pervaded by the probandum in the locus of the inference. Hence it presupposes the cognition of the invariable concomitance between the probans and the probandum. *Pakṣatā* refers to certain epistemic attitude of the cogniser towards the probandum. The ancient Nyāya defines *pakṣatā* as doubt about the presence of the probandum in the locus of inference (*pakṣa*). But this definition is not acceptable to the modern Nyāya (Navya-Nyāya) philosophers, as the desire to infer leads to inferential cognition even if there is no doubt about the presence of the probandum in the locus. Hence the Navya-Nyāya philosophers define it as the absence of certainty about the probandum

in the locus qualified by the absence of desire to infer. This definition may be explained in terms of the following disjunction:

There is absence of certainty about the probandum in the locus or there is desire to infer the probandum in the locus. Hence this definition rules out the possibility of inferential cognition in a cogniser in the presence of *parāmarśa* (operation) if the cogniser is certain about the presence of the probandum in the locus and there is no desire to infer the probandum in the locus.

The Nyāya philosophers have classified inferences into three types depending upon the nature of the invariable concomitance (*vyāpti*) between the probans and the probandum. Again the probantia (*hetus*) have been divided into three types depending upon the nature of the invariable concomitance. If the rule of invariable concomitance used in an inference takes the form of agreement in presence of the probans with the probandum, then the inference is called '*anvayī*' ('agreement in presence'). If this rule takes the form of agreement in absence, then the inference is called '*vyatirekī*' ('agreement in absence'). And if the rule takes both the forms, then the inference is called '*anvaya-vyatirekī*' ('agreement in presence and absence'). Similarly, the probantia involved in these inferences are divided into three types. The inferences for others would take the following forms if '*p*' stands for the locus, '*h*' for the probans and '*s*' for the probandum.

a) Agreement in presence type of inference:

1. *p* has *s*
2. Because of *h*
3. Wherever there is *h*, there is *s*, and an example in favour of this rule.
4. *p* has *h* which is pervaded by *s* (or, *h* which is present in, or related to, *p* is pervaded by *s*).
5. Therefore, *p* has *s* (or, *s* is present in *p*).

b) Agreement in absence type of inference:

1. *p* has *s*
2. Because of *h*
3. Wherever there is absence of *s*, there is absence of *h*, and an example in favour of this rule.
4. *p* has *h* which is the negatum of the absence which is the pervader of the absence of *s*.
5. Therefore, *p* has *s* (or, *s* is present in *p*)

c) The third type of inference is a combination of a) and b). It refers to both the types of invariable concomitance of the probans with the probandum.

If the rule of invariable concomitance is of the agreement in presence type only, then the inference is called '*kevalānvayī-anumāna*' ('agreement in presence type of inference only'). The probans of this type of inference is called '*kevalānvayī-hetu*' ('agreement in presence type of probans only').

If the rule of invariable concomitance is of the agreement in absence type only, then the inference is called '*kevalavyatirekī-anumāna*' ('agreement in absence type of inference only'). The probans of this type of inference is called '*kevalavyatirekī-hetu*' ('agreement in absence type of probans only').

In the case of inference for oneself all the premises in a) or b) are not needed. What we need is the *parāmarśa* i.e., the fourth member in our above formulation of a) or b) provided *pakṣatā* is present.

[16] In this inference the locus (*pakṣa*) is a cognition, the probans is the property of being a cognition i.e., cognitionhood (*jñānatva*) which is a class-character, and the probandum is the property of being independent of another cognition for the use of it. The inference can be stated in the following way:

1. A cognition has the property of being a cognition i.e., cognitionhood.
2. Wherever there is absence of the property of being independent of another cognition for the use of it, there is absence of the property of being a cognition. For example, a pot.
3. A cognition has the property of being a cognition which is the negatum of the absence which is the pervader of the absence of the property of being independent of another cognition for the use of it.
4. Therefore, a cognition has the property of being independent of another cognition for the use of it.

[17] This objection has been raised by the followers of the non-self-revealing theory. The supporters of the self-revealing theory do not accept another cognition for the use of a cognition, although they accept the cognition of a desire for the use of a desire. Moreover, a desire, according to them, does not necessarily yield the cognition of it. In other words, a desire by itself does not produce the cognition of it. Hence they accept one criterion for cognition and another for desire.

But the supporters of the non-self-revealing theory accept the same criterion for both cognition and desire. Hence, according to them, the cognition of a desire cannot occur simultaneously with the occurrence of a desire. First we have a desire, thereafter we have the cognition of this desire. If the cognition of a desire does not occur just after the occurrence of a desire, then its cognition will not occur later on, as the desire ceases to exist after two moments, namely, the moments of its origination and duration.

If the cognition of a desire occurs, then the memory-cognition of this desire is possible. Hence the cognition of a desire is different from a desire and the latter is a causal condition of the former. Similarly, the cognition of a cognition is different from a cognition, and the latter is a causal condition of the former.

[18] It is to be noted that the Nyāya philosophers would also accept this premise or the truth of this sentence, but not the truth of the remaining sentences of this argument.

[19] This presupposes the Nyāya distinction between valid and invalid (or fallacious) inferences. Since the author mentions different types of fallacies, a discussion on inference might be of some help to the reader.

If the inference is of the agreement in presence and agreement in absence type (*anvya-vyatirekī-anumāna*), and it is used to generate the inferential cognition (*anumiti*) in others, then it is expressed by the following form:

Thesis (*pratijña*): a is G.

Reason (*hetu*): because of F.

Example (*udāharaṇa*): Wherever there is F, there is G, as in b, etc; and wherever there is absence of G, there is absence of F, as in C, etc.

Application (*upanaya*): a has F which is pervaded by G; or a has F which is the counterpositive (i.e., negatum) of the absence which pervades the absence of G.

Conclusion (*nigamana*): Hence a is G, or G is present in a, where a is the locus of the inference (*pakṣa*), F is the probans, G is the probandum, b is the locus where G is known to be present (*sapakṣa*), and c is the locus where the absence of G is known to be present (*vipakṣa*).

According to the Nyāya each of the sentences in an inference for others is an answer to a question and each of them except the last one will give rise to a question. Moreover, each of them is used to generate a cognition in the hearer. Since a self-contradictory sentence such as 'a is both G and not G' cannot generate a cognition, it cannot be used either as a premise or conclusion of an inference. If the inference (not the inferential cognition) is valid (*Nyāya*), then all the sentences must be true

and the conclusion will follow from the premise or the premises. The application (*upanaya-vākya*), which represents the operation (*vyāpāra*) of an inferential cognition (*anumiti*), entails the conclusion.

Invalid inferences (*Nyāyābhāsas*) are divided into two types. One type of invalid inference contains a false premise or premises, but the other type does not contain any false premise. Hence the former may be called 'logically invalid' and the latter 'epistemically invalid,' although the Nyāya uses the word '*nitya*' ('permanent') for the former type of invalidity and '*anitya*' ('impermanent') for the latter type of invalidity. But any inference, valid or invalid, must satisfy the relevance condition. If there is no relevance between the two sentences, then no inference arises.

In an inference for others, all the five sentences are needed, because each of them is an answer to a different question and gives some new information. But in an inference for oneself all of them are not required and there is no need to use a sentence. Hence a deaf and a mute person can also have an inferential cognition. What is required is the operation (*parāmarśa*) which corresponds to the application in our above example and the cognitions which will give rise to this operation.

In our above example the thesis (*pratijñā-vākya*) is an answer to the question what is to be established in *a* (*pakṣa*). *a* is usually considered as something where there is doubt about the presence of the probandum. The reason (*hetu-vākya*) is an answer to the question what signifies the probandum. Hence it states that the probans signifies the probandum. The signifier-significate (*jñāpya-jñāpaka*) relation holds between the objects of two cognitions. The cognition of the signifier (*jñāpaka*) gives rise to the cognition of the significate (*jñāpya*). Hence the reason does not state that the locus *a* (*pakṣa*) is characterised by the probans.

Now it may be asked, why should we consider the probans as the signifier? The answer is given by stating a rule (*vyāpti*) along with some examples which give rise to the cognition of the invariable concomitance between the probans and the probandum (*vyāpti-jñāna*). For this reason the third step is called 'example.' Both the examples of agreement in presence and agreement in absence are to be stated in support of this rule of invariable concomitance. The observation of the presence of the probans and the probandum in some loci and the non-observance of the presence of the probans and the absence of the probandum in some other loci are required for the cognition of the rule of invariable concomitance between the probans and the probandum. The rule takes the form of a universal sentence which can be stated as:

$$(x)\ (F\,x \supset G\,x).$$

As regards the range of the variable x, the Nyāya claims that all the loci including a in our above example will come under its range, but the cognition of this rule does not entail the cognition of a qualified by a unique mode of presentation. Hence a (i.e., *pakṣa*) is known as something different from b (i.e., *sapakṣa*) and we know that if it has F, then it has G. Therefore, in order to avoid the inferential circularity (*siddha-sādhana*), the Nyāya claims that the cognition of the rule does not entail the cognition of the inferential locus qualified by F and G, although the cognition of the rule rests upon the cognition of some of the instances of the rule.

According to another interpretation, the sentence 'Wherever there is F, there is G' simply states the pervader – pervaded relation between F and G. It does not refer to any instances or loci of these properties. Hence the rule by itself does not refer to a, b, or c in our above example. But the cognition of the rule, according to both the interpretations, presupposes the observation of the presence of the probans and the probandum in the same loci and the non-observation of the probans in a locus which is characterised by the absence of the probandum. If the cognition of the rule is true, then F is pervaded by G. In other words, F has the property of being pervaded by G.

The application (*upanaya-vākya*) is an answer to the question whether *a* (i.e., *pakṣa*) is characterised by this type of *F*. Since the reason does not state that *a* is characterised by *F*, the application gives us some new information about *a*. The reason simply states that *F* is the signifier of *G*. Hence the application gives us some new information which is not already contained in the previous sentences. The conclusion (*nigamana-vākya*) is an answer to the question whether the probandum which is the significate of that type of probans is in *a*. Hence it is an answer to the question whether *G* which is the significate of *F* which is pervaded by *G* is present in *a*. The difference between the thesis and the conclusion lies in the fact that the thesis simply states what is to be established in the locus, but the conclusion states how it is to be established in the locus. The word 'hence' or its synonym in the conclusion means 'the significate of the cognition of the probans.' Hence the conclusion (*nigamana-vākya*) means that *G* which is the significate of *F*, which is pervaded by *G* and is in *a*, is present in *a*. Here the new information lies in the fact that *G* is the significate of that type of *F*.

As regards the utility of operation (*parāmarśa*) which is expressed by application there is some difference of opinion among the different schools of Indian philosophy. The Mīmāṃsā and the Vedānta philosophers claim that there is no need to accept operation (*parāmarśa*) as distinct from the cognition of the presence of probans in the locus (*pakṣadharmatā-jñāna*) and the cognition of the rule of invariable concomitance (*vyāpti-jñāna*) for the inferential cognition. Hence the inferential cognition of the mountain has fire is causally dependent upon the cognitions of wherever there is smoke there is fire and the mountain has smoke.

Now the Nyāya philosophers claim that if the above view is tenable, then there is no difference between the following two inferences as both of them equally satisfy the above two conditions of an inference.

a) Wherever there is smoke, there is fire. The mountain has smoke. Hence the mountain has fire.

b) Wherever there is smoke, there is fire. The mountain has light. Hence the mountain has fire.

In this context it is to be noted that both smoke and light are pervaded by fire. Hence both the inferences contain the rule of invariable concomitance and the presence of the probans in the locus. But in b) the inferential cognition will not be generated by these two conditions alone.

In response to this objection the followers of the Mīmāṃsa claim that if the mode of presentation of the probans which resides in the locus is the same as the limitor of the property of being pervaded (*vyapyatavacchedaka*), then these two conditions will yield the inferential cognition.

In a) smokeness is both the limitor of the property of being the probans (*hetutavacchedaka*) and the limitor of the property of being the pervaded (*vyapyatavacchedaka*). But in b) lightness is the limitor of the property of being the probans and smokeness is the limitor of the property of being the pervaded. For this reason the cognition of the mountain has fire will not be generated by the cognitions of the presence of the probans in the locus and the rule of invariable concomitance.

Now the Nyāya philosophers raise another objection against this view. Suppose John has the cognition of the presence of the probans in the locus, Tom has the cognition of the rule of invariable concomitance, and the limitor of the property of being the probans cognised by John is the same as the limitor of the property of being the pervaded cognised by Tom. Since all the conditions are satisfied, the inferential cognition will be generated either in John or in Tom. But this does not happen. Hence some additional conditions are needed in support of the view of the Mīmāṃsa.

On this point the supporters of the Mīmāṃsā claim that if a person has cognised the limitor of the property of being the probans in the way he has cognised the limitor of the property of being the pervaded, then he will have the inferential cognition. Hence the above counterexample does not refute the view of the Mīmāṃsā.

Now the Nyāya philosophers raise another objection. It is claimed that the explanation of the Mīmāṃsā goes against the law of parsimony in two ways. First, the causal explanation has reference to persons. Second, since persons are different, the causes of the inferential cognitions would also be different. Hence the instances of the causal law would take the following form:

If x cognises p and q, then x cognises r,
If y cognises p and q, then y cognises r, and so on.

But the causal explanation offered by the Nyāya philosophers does not have any reference to a person. It simply states that the operation (*parāmarśa*) will yield the inferential cognition. In other words, the cognition of a is F pervaded by G will generate the cognition of a is G. Hence the causal explanation of the Nyāya is simpler than that of the Mīmāṃsā.

Moreover, the Nyāya claims that the inferential cognition may be due to the cognition of the locus characterised by something which is pervaded by the probandum (*sādhya-vyāpyavāna-pakṣaḥ*). Hence the cognition of $(\exists x)$ (a has x which is pervaded by G) will yield the inferential cognition a is G. In other words, the cognition of any specific probans is not needed for an inferential cognition. If the Mīmāṃsā philosophers accept it also as a causal condition for an inferential cognition, then they have to accept two separate sets of causal conditions for the same inferential cognition. One of them will be the cognition of the presence of the probans in the locus and the cognition of the rule of the invariable concomitance, and the other one will be the cognition of the locus characterised by something which is pervaded by the probandum.

But the Nyāya philosophers accept only one type of causal condition for an inferential cognition. What is required for an inferential cognition is the cognition of the locus which has a property which is characterised by the property of being the pervaded (*vyāpti-prakāraka-pakṣadharmatā-jñāna*). In our above two inferences, the operation 'the mountain has smoke which is pervaded by fire' and the operation 'the mountain has light which is pervaded by fire' satisfy the causal condition of the inferential cognition. Hence either of the operations will yield the inferential cognition 'the mountain has fire.' Moreover, the more generic cognition of the mountain has something which is pervaded by fire also satisfies the above definition of the causal condition for the inferential cognition. Hence it also yields the inferential cognition 'the mountain has fire.'

As regards the nature of the operation which is a cognition, the Nyāya claims that there are different types depending on the source of its origin. It could be perceptual or inferential. In other words, it is derived from perception if the probans is perceived in the locus of the inference. It will be inferential if it is cognised as a conclusion of another inference. Moreover, an operation (*parāmarśa*) may be due to a mental disposition (*saṃskāra*), and thereby it will be a type of memory-cognition. Again, it may be generated by verbal testimony. Hence it may be a case of verbal cognition as well.

As regards the form of an operation, the Nyaya accepts four types of it. As there are two types of rule of invariable concomitance, namely, agreement in presence (*anvya-vyapti*) and agreement in absence (*vyatireka-vyapti*), so there are two types of operation, namely, agreement in presence (*anvyi-parāmarśa*) and agreement in absence (*vyatireki-paramarśa*). Again, each of them may take two different forms at cognitive level. In one case the locus of inference becomes the qualificand, as

in the cognition of the mountain has smoke which is pervaded by fire. In another case, the pervaded becomes the qualificand, as in the cognition of the smoke which is pervaded by fire is on the mountain.

Similarly, the agreement in absence type of operation has two forms. In one case the locus of inference becomes the qualificand, as in the cognition of the mountain has smoke which is the negatum of the absence which pervades the absence of fire. In another case the pervaded becomes the qualificand, as in the cognition of smoke which is the negatum of the absence which pervades the absence of fire is on the mountain.

The Nyāya has also discussed whether the two types of inferential cognition, namely, a is G and G is in a, are derivable from different types of operation. Here we come across two different views:

A. According to some Nyāya philosophers both the types of inferential cognition are derivable from any of the following four types of operation:

   i) a is F which is pervaded by G. Since the locus is the qualificand in this cognition, it is called 'locus-qualificand type of agreement in presence operation' (*'pakṣa-viśeṣyaka-anvyi-parāmarśa'*).
   ii) F which is pervaded by G is in a. Since the pervaded is the qualificand in this cognition, it is called 'pervaded-qualificand type of agreement in presence operation' (*'vyāpya-viśeṣyaka-anvyī-parāmarśa'*).
   iii) a has F which is the negatum of the absence which pervades the absence of G. Since the locus is the qualificand, it is called 'locus-qualificand type of agreement in absence operation' (*'pakṣa-viśeṣyaka-vyatirekī-parāmarśa'*).
   iv) F which is the negatum of the absence which pervades the absence of G is in a. Since the pervaded is the qualificand, it is called 'pervaded-qualificand type of agreement in absence operation' (*vyāpya-viśeṣyaka-vyatirekī-parāmarśa*).

B. According to some other Nyaya philosophers the locus-qualificand type of inferential cognition (*pakṣa-viśeṣyaka-anumiti*) will be generated by the locus-qualificand type of operation (*pakṣa-viśeṣyaka-parāmarśa*), and the probandum-qualificand type of inferential cognition (*sādhya-viśeṣyaka-anumiti*) will be generated by the pervaded-qualificand type of operation (*vyāpya-viśeṣyaka-parāmarśa*). Hence a is G is derivable from either a is F which is pervaded by G or a has F which is the negatum of the absence which pervades the absence of G. Similarly, G is in a is derivable from either F which is pervaded by G is in a or F which is the negatum of the absence which pervades the absence of G is in a.

Now let us discuss the nature of the probans in a valid inference. If the valid inference is of the agreement in presence and agreement in absence type, then its probans has the following five characteristics:

(a) It is present in the locus of the inference (*pakṣa*). Hence it has the property of being present in the locus (*pakṣasattva*).
(b) It is also present in some of the loci which are known to be characterised by the probandum. Hence it has the property of being present in similar loci (*sapakṣasattva*).
(c) It is not present in those loci which are known to be characterised by the absence of the probandum. Hence it has the property of being absent from dissimilar loci (*vipakṣasattva*).
(d) It has no counter-probans (*prati-hetu*) which will demonstrate the absence of the probandum in the locus of the inference. A counter-probans is different from the probans in question and it is pervaded by the absence of the probandum. Hence it has the property of not having a counter-probans (*asatpratipakṣattva*).

(e) It is different from the probans which can be used to establish the probandum in the locus which is characterised by the absence of the probandum. Hence it has the property of being different from this type of probans (*abādhitattva*).

An inference of the agreement in presence type only (*kevalānvayī-anumāna*) has no dissimilar cases (*vipakṣa*) as examples. In other words, there is no locus which is known to be characterised by the absence of the probandum. For example, this table is knowable, because of nameability. Since there is no locus which is characterised by the absence of knowability, the agreement in absence type of invariable concomitance (*vyatireka-vyāpti*) is not possible. Hence the probans of this type of inference has no *vipakṣāsattva*. But it has the remaining four characteristics of a valid probans (*sad-hetu*). Similarly, an inference of the agreement in absence type only has no similar cases as examples (*sapakṣa*). In other words, there is no locus which is known to be characterised by the probandum. For example, earth is different from other things, because of smell. Since in the Nyāya ontology earth alone has smell and since earth is the locus of the inference (*pakṣa*), there is no example in favour of the rule 'Whatever has smell is different from other things.' Hence the probans of this type of inference has no *sapakṣasattva*. But it has the remaining four characteristics.

An inference, according to the Nyāya, will be fallacious if the probans lacks one of these characteristics. In other words, if the probantia of the inferences of the agreement in presence and absence type do not have all the five characteristics, and the probantia of the other types of inferences do not have the remaining four characteristics, then they are fallacious. It is to be noted that there are two types of fallacies. One of them would render some of the sentences false and hence the cognitions expressed by those sentences would not correspond to facts. Another type of fallacy would simply prevent the occurrence of doubt free cognitions expressed by the sentences of an inference.

Since the Nyāya has ascribed the term 'fallacy' to the probans of an inference, a fallacious inference is called '*hetvābhāsa*' ('defective probans'). The probans which is free from all the defects will generate a true inferential cognition, and the sentences used to generate the inferential cognition in others will also be true. Hence the validity of an inference will be defined in terms of the presence of these properties in the probans. But an invalid inference will lack some of these properties. Since a probans is used to infer the probandum, the fallacy of an inference has been ascribed to the probans.

A fallacy or *hetvābhāsa* has been defined in the following way:

> x is a *hetvābhāsa* iff the true cognition of x prevents the occurrence of an inferential cognition (*anumiti*) or the operation (*parāmarśa*) which is the *vyāpāra* of an inferential cognition, where x is a qualified object of cognition.

Let us consider a fallacious inference, for example, this lake has fire because of smoke. In this case the inferential cognition *this lake has fire* is false. From the above definition of fallacy it follows that if the person would have known that this lake has no fire, then the inferential cognition would have been prevented. The absence of fire in the lake which is the object of cognition is the defect of the probans. Since smoke is the probans in this inference, it is infected with this defect. Hence, in our above example, the defect is the absence of fire in the lake, and smoke is the object qualified by this defect. Now the question is, how can smoke be qualified by this defect?

The Nyāya philosophers explain the relation between them in terms of the relation of a cognition to its object, which is called '*viṣayatā*,' and the limitor of the property of being the probans (*hetutāvacchedaka*). In other words, it is explained in terms of a conjunctive cognition such that one of them is the defect and the other one is the

probans. In our above example, one of the objects of this conjunctive cognition would be the lake qualified by the absence of fire and the other one would be smoke.

Since both the objects are objects of the same cognition, the property of being the object of one cognition (*eka-jñāna-viṣayatā*) resides in both. The property of being the object of one cognition is not something over and above the property of being the qualificand and the property of being the qualifier residing in the qualificand and the qualifier. respectively. Since these properties are determined by the same cognition, the objects of this cognition have the property of being the object of *one* cognition. Hence the objects will be related to each other at epistemic level. This is analogous to the relation between two persons who have the same father. In our above example, since the property of being the object of the conjunctive cognition resides in both smoke and the lake qualified by the absence of fire, they are related to each other. Now the question is whether this relation by itself can uniquely make the lake qualified by the absence of fire the qualifier of smoke which is the probans.

In order to specify the relation of the lake qualified by the absence of fire to smoke, it may be said that the property of being the object of the same conjunctive cognition residing in smoke is limited by a unique property of smoke such as gaseous carbon particles. Now the question is whether this relation of the lake qualified by the absence of fire to smoke is the same as the relation of defect to that which is infected with this defect. If it is considered sufficient, then in the following example a pot would also be infected with this defect. Consider a conjunctive cognition of the lake qualified by the absence of fire and a pot. Here also the property of being the object of the conjunctive cognition resides in both the pot and the lake qualified by the absence of fire. Here also we can specify the property of being the object of the conjunctive cognition residing in the pot in terms of a unique property of the pot such as potness. If this method of specifying the relation were sufficient, then the pot would also be infected with the same defect. And if there is a more complex conjunctive cognition in which the lake qualified by the absence of fire is a conjunct, then all the remaining members would be infected with this defect if the relations were specified.

In order to exclude such cases we have to show that the specific relational property of being the object of the same conjunctive cognition residing in a pot is not the same as the relation of the defect to that which is infected with the defect. Hence it has been proposed that the relation which relates the lake qualified by the absence of fire to smoke is qualified by a property which resides only in the probans. In other words, the limitor of the property of being the probans (*hetutāvacchedaka*) which is smokeness will qualify this relation. Hence the relation of the defect to that which is infected with it will be the property of being the object of the conjunctive cognition qualified by the limitor of the property of being the probans. Since smokeness is the limitor of the property of being the probans, and not the gaseous carbon particle, smokeness will be used to specify the relation of the defect to that which is infected with it. Hence the complex relation in which smokeness is the qualifier will make the lake qualified by the absence of fire, which is the defect, the qualifier of the probans which is smoke.

If we would have known this property of smoke, then we would not have inferred the presence of fire in the lake. Since smoke was used to make this inference, and since this function of smoke will be restricted by our cognition of smoke qualified by the absence of fire in the lake, smoke as a probans is considered defective. In other words, it will fail to perform its function as probans for the above inference.

Now it may be said that the fallacious inference is due to the lack of knowledge about reality. In our above example, the person who infers that the lake has fire does not know that the lake is qualified by the absence of fire. Hence the fallacy is due to this lack of knowledge.

In reply the Nyāya would say that even in a valid inference the person, who infers that the lake has absence of fire, does not know that the lake is qualified by the absence of fire. Here also the person lacks the same knowledge. Hence in terms of the lack of knowledge the distinction between the valid and the invalid inferences cannot be drawn.

From the above discussion it follows that the probans is used to infer the probandum in the locus of an inference. If the inferential cognition or the operation (*parāmarśa*) of an inference is prevented by a valid cognition, then the probans is considered defective and thereby the inference becomes fallacious. Moreover, it also follows that if the cognition of the presence of the probans in the locus (*pakṣadharmatā-jñāna*) or the cognition of the rule of invariable concomitance (*vyāpti-jñāna*) is prevented, then the operation (*parāmarśa*) will also be prevented as the contents of the former two cognitions are necessary for operation. Hence the inference will be fallacious if the cognition of the presence of the probans in the locus or the cognition of the rule of invariable concomitance is prevented by a true cognition. Therefore, the cognition of the defect (*doṣa*) is opposed to the cognition of the presence of the probans in the locus or the cognition of the rule of invariable concomitance or the inferential cognition. If the inference is fallacious, the probans will lack at least one of the characteristics of a valid probans (*sad-hetu*).

Now let us discuss the fallacies which are, according to the Nyāya, due to the defects of the probantia. There are five types of fallacies, viz., (1) *asiddha* (unestablished), (2) *vyabhicāra* (deviation), (3) *viruddha* (opposed), (4) *satpratipakṣa* (existence of a counter-thesis), and (5) *bādha* (absence of the probandum in the locus).

1. *asiddha* (unestablished): If the probans cannot be established, it is called '*asiddha*.' This type of fallacy can occur in five ways:

   a) The locus of the inference (*pakṣa*) is not real. For example, the golden mountain has fire, because of smoke. Here the golden mountain is the locus (*pakṣa*), smoke is the probans, and fire is the probandum. Since the locus is unreal or unexemplified (*aprasiddha*), the probans cannot reside in it. Since the locus cannot be established, this fallacy is called '*āśrayāsiddha*' ('unestablished locus').

Here the defect is the absence of gold in the mountain or the mountain not being made of gold. The cognition of this defect is opposed to the cognition of the presence of the probans in the locus (*pakṣadharmatā-jñāna*) and the inferential cognition (*anumiti*). Here the probans lacks the property of being present in the locus (*pakṣasattva*).

The absence of gold in the mountain, which is the defect, is related to smoke in a conjunctive cognition. Since the cognition of this defect will prevent the occurrence of the operation or the inferential cognition, the probans will fail to perform its function. Hence the probans will be considered defective.

   b) The probans does not reside in the locus of the inference, although the locus is real and the probans is real. For example, sound is non-eternal, because of visibility. Here both sound and visibility are real entities, but visibility does not qualify sound. Since the probans cannot qualify the locus of the inference, this type of fallacy is called '*svarūpāsiddha*' ('unestablished in the locus').

This type of fallacy is opposed to the cognition of the presence of the probans in the locus (*pakṣadharmatā-jñāna*). Here also the probans lacks the property of being present in the locus (*pakṣasattva*). The defect (*doṣa*) is the absence of visibility in the sound. Hence the cognition of the absence of visibility in the sound would

prevent the occurrence of the operation which contains the presence of probans in the locus.

c) The probans is unreal or unexemplified, although the locus is real. For example, the mountain has fire, because of golden smoke. In this case the golden smoke which is the probans is itself unreal. Since the probans is unreal, this type of fallacy is called '*hetvasiddha*' ('unestablished probans').

This type of fallacy is opposed to the cognition of the presence of the probans in the locus of inference and the cognition of the rule of invariable concomitance between the probans and the probandum. Since the probans is unexemplified, it cannot have any property of a genuine probans. That is, it lacks all the five properties of a genuine probans (*sad-hetu*). Here the defect (*doṣa*) is the absence of gold in smoke. Hence the cognition of the absence of gold in smoke would prevent the occurrence of the operation (*parāmarśa*) which contains the golden smoke.

d) Another type of *asiddha* (unestablished) fallacy will occur if the probans of an unexemplified probandum is not present in the locus of an inference. For example, the mountain has golden fire, because of smoke. In this case, smoke is present on the mountain, but not as the probans of the golden fire. Hence this type of fallacy is called '*sādhyāsiddha*'('unestablished probandum'). Here the probans lacks both *sapakṣasattva* (the property of being present in similar cases) and *vipakṣāsattva* (the property of being absent from dissimilar cases)

Here the defect is the absence of gold in fire. Hence the cognition of the absence of gold in fire (i.e., fire not being made of gold) would prevent the cognition of the rule of invariable concomitance between smoke and golden fire and the inferential cognition. Hence the cognition of this defect is opposed to both the operation and the inferential cognition.

e) There is another type of *asiddha* fallacy. In this case the locus is real, the probans is real and the probans is present in the locus but the probans is not qualified by the property of being the pervaded which is limited by a property. In other words, the probans lacks the property of being the pervaded of the probandum as the property of being the pervaded is not limited by the *appropriate* limitor. It is to be noted that the property of being the pervaded which is a relational property of the probans is limited by a property-limitor, and this limitor also fixes the referent of the 'probans.'

The observation of the co-presence of the probans and the probandum in some loci, and the non-observation of the presence of the probans without the probandum in some other loci are causal conditions for the cognition of the rule of invariable concomitance between the probans and the probandum. Now the mode under which the probans has been cognised becomes the limitor of the property of being the pervaded (*vyāpyatāvacchedaka*). This type of fallacy will occur when the mode under which the probans has been cognised does not limit the property of being the pervaded which resides in the probans. For example, the mountain has fire, because of blue smoke.

If blue smoke is the probans, then the rule of invariable concomitance would be between blue smoke and fire. The property of being the pervaded residing in blue smoke will be limited by blue smokeness (i.e., blueness and smokeness). But this rule of invariable concomitance cannot substantiate the rule of invariable concomitance between smoke and fire. Hence we have to postulate two rules of invariable concomitance, viz. (i) wherever there is blue smoke, there is fire, and (ii) wherever there is smoke, there is fire. Therefore, there would be two properties of being the pervaded. The property of being the pervaded residing in any smoke will

be limited by smokeness only but the property of being the pervaded residing in blue smoke will be limited by both blueness and smokeness.

Now the question is whether there is any need to postulate two properties of being the pervaded. The postulation of the property of being the pervaded limited by blue smokeness cannot explain the rule of invariable concomitance between any smoke and fire. But the postulation of the property of being the pervaded limited by smokeness only can explain the invariable concomitance between any smoke and fire, and thereby between blue smoke and fire as well. Hence, on the ground of simplicity, the Nyāya philosophers accept only the property of being the pervaded which is limited by smokeness.

Since there is no property of being the pervaded which is limited by blue smokeness and resides in blue smoke, the type of fallacy present in the above inference is called '*vyāpyatvāsiddha*' ('unestablished property of being the pervaded'). Here the defect will be the absence of the property of being the pervaded which is limited by blue smokeness and which resides in blue smoke. The cognition of this defect would prevent the cognition of the invariable concomitance between blue smoke and fire. Hence during the observation of the co-presence of smoke and fire we have to cognise smoke, blue or black, under the mode of smokeness alone, because this mode of presentation will be the limitor of the property of being the pervaded. If the blue smoke is not cognised under the mode of smokeness alone, then it will lack the property of being present in *sapakṣa* (similar cases). This is due to the fact that other modes of presentation such as blue smokeness cannot limit (or determine) the property of being the pervaded of fire, which resides in a blue smoke. Hence the property of being present in *sapakṣa* (similar cases) requires not only the presence of the probans in similar cases but also the mode under which it is to be cognised. In this case, blue smoke is present in the locus of fire, but blue smoke lacks the property of being the pervaded limited by blue smokeness. If the mode under which the probans is cognised cannot be the limitor of its property of being the pervaded, then also the probans lacks the property of being present in *sapakṣa*. Hence in this technical sense of the word '*sapakṣasattva*' blue smoke as probans, in our above example, lacks this property. On the contrary, if blue smoke is cognised in *sapakṣa* under the mode of smokeness only, then it will satisfy one of the conditions for the cognition of the rule of invariable concomitance between smoke and fire. Since blue smokeness is not the limitor of the property of being the pervaded, the cognition of the probans under the mode of blue smokeness will prevent the cognition of the rule of invariable concomitance between smoke and fire.

From the above discussion it follows that blue smoke lacks the property of being the pervaded limited by blue smokeness. The cognition of this defect will prevent the cognition of the rule of invariable concomitance between blue smoke and fire, and thereby the operation of this inference.

2. *vyabhicāra* (deviation): There are three types of fallacy of deviation. In all the three cases the cognition of the defect would prevent the cognition of the rule of invariable concomitance between the probans and the probandum.

   a) *sādhāraṇa-vyabhicāra* (common deviation): If the probans is present in *pakṣa* (locus of the inference), *sapakṣa* (locus known to be characterised by the probandum) and *vipakṣa* (locus known to be characterised by the absence of the probandum), then this type of fallacy would occur, and the probans is called '*sādhāraṇa-vyabhicārī-hetu*' ('common deviating probans'). For example, the mountain has fire, because of knowability.

Since the probans is present in the locus of the absence of the probandum, the cognition of deviation (*vyabhicāra*) is opposed to the cognition of the invariable concomitance between the probans and the probandum. If we take a lake as *vipakṣa*,

then fire is absent from it, but knowability is present in it. Hence there cannot be a cognition of the invariable concomitance between knowability and fire. Moreover, since there is deviation, the rule of invariable concomitance will not hold good between the probans and the probandum. In this case, the defect (*doṣa*) is the absence of fire in a lake which has knowability. Hence the cognition of this defect will prevent the cognition of the invariable concomitance between knowability and fire. Since the cognition of the invariable concomitance is prevented, the operation will also be prevented. In this fallacy the probans lacks the property of not being present in *vipakṣa*.

b) *asādhāraṇa-vyabhicāra* (uncommon deviation): If the probans is present in the locus of the inference (*pakṣa*) only, then it is called '*asādharaṇa-vyabhicari-hetu*' ('uncommon deviating probans'). In other words, the probans is not present in *sapakṣa* (the locus of the probandum) and in *vipakṣa* (the locus of the absence of the probandum), but is present in *pakṣa* (the locus of the inference). For example, sound is non-eternal, because of soundness.

In this case, sound is *pakṣa*, a non-eternal object such as a pot is *sapakṣa* and an eternal object such as space is *vipakṣa*. Since soundness is not present in a pot, it lacks the property of being present in *sapakṣa*. Since soundness cannot be perceived in non-eternal objects, there cannot be cognition of the agreement in presence type of invariable concomitance between the probans and the probandum. But the probans is absent from the eternal objects. Since the agreement in absence between the probans and the probandum can be observed, the agreement in absence type of invariable concomitance (*vyatireka-vyapti*) can be cognised.

In this example, the defect is the absence of soundness in a non-eternal object such as a pot, and the probans lacks the property of being present in *sapakṣa*. The cognition of this defect would prevent the cognition of the agreement in presence type of invariable concomitance (*anvya-vyapti*). But it will not prevent the cognition of the agreement in absence type of invariable concomitance (*vyatireka-vyapti*). Since there are two types of invariable concomitance, there would be two types of operation. Since the agreement in presence type of operation depends on the agreement in presence type of invariable concomitance, it will be prevented by the cognition of this defect. But the agreement in absence type of operation which depends on the agreement in absence type of invariable concomitance will not be prevented by the cognition of this defect. Hence the cognition of this type of defect does not prevent the cognition of all types of invariable concomitance or operation. For this reason it may be treated as epistemic fallacy as opposed to a logical one (where some of the sentences are false). In the example above, the sentences would not be false, but we fail to cognise the agreement in presence type of invariable concomitance and thereby the agreement in presence type of operation.

Moreover, this type of epistemic defect can also be removed. In our example, this defect can be removed if there is certainty about the presence of the probandum in some sounds such as the sound of a music. If it were so, then the locus would not be sound in general as it is in the above example, but some specific sounds such as the one which follows lightning. From the observation of the copresence of the probans and the probandum in some loci (*sapakṣa*) and the non-observation of the probans in the locus of the absence of the probandum one may cognise the agreement in presence type of invariable concomitance. Hence the cognition of both the types of invariable concomitance are possible. Again in our example, the defect remains so long as there is doubt about the presence of the probandum in every sound. Since this defect can be removed, it is called '*anitya*' ('impermanent').

c) *anupasaṃhari-vyabhicara* (unsupported deviation): If everything becomes *pakṣa* and thereby the probans does not have either *sapakṣa* or *vipakṣa*,

then the fallacy of *anupasaṃhārī-vyabhicāra* will occur. Let us consider the following two examples.

(i) Everything is non-eternal, because of knowability.
(ii) Everything is nameable, because of knowability.

In both (i) and (ii) everything is the locus of inference. There is doubt about the presence of non-eternality in (i) and nameability in (ii). Since everything is *pakṣa*, there is no *sapakṣa* or *vipakṣa*. Since the co-presence of the probans and the probandum cannot be observed, the agreement in presence type of invariable concomitance cannot be cognised. Similarly, since the co-absence of the probans and the probandum cannot be observed, the agreement in absence type of invariable concomitance cannot be cognised. Since neither type of invariable concomitance is cognised, neither the agreement in presence nor the agreement in absence type of operation will occur. Hence this type of fallacy prevents the occurrence of any type of operation which is necessary for an inferential cognition. Since there is neither *sapkṣa* nor *vipakṣa*, the probans lacks both the property of being present in *sapakṣa* and the property of being absent from *vipakṣa*.

As regards the nature of this fallacy, it is not logical, but epistemological. If a person does not have doubt about the presence of the probandum in everything, then this epistemic defect can be removed. From the observation of the co-presence of the probans and the probandum and the non-observation of deviation, one will have the cognition of the invariable concomitance between them. In (i), if everything ceases to be *pakṣa*, then the cognition of the invariable concomitance may be possible on the basis of the observation of co-presence and non-observation of deviation. But this cognition will be false as there are eternal objects such as space and time which are knowable in the Nyāya system. Hence there will be another type of fallacy.

In (ii) if everything ceases to be *pakṣa*, then the cognition of the invariable concomitance between knowability and nameability will be possible from the observation of co-presence and the non-observation of deviation. Moreover, the cognition of invariable concomitance will be true as the invariable concomitance holds good in the Nyāya system, and the inference will be valid.

From the above discussion it follows that this type of defect can also be removed. Hence it is also epistemological, not logical. It is due to the fact that the person in question has doubt about everything and as a result he cannot cognise the invariable concomitance. This type of defect will last so long as there is doubt about the presence of the probandum in everything.

From the above discussion of three types of fallacies of deviation, it follows that the last two are epistemic and hence impermanent, but the first one is logical and hence permanent. But all of them are opposed to the cognition of the invariable concomitance although not in the same way. Moreover, all of them are infected with the fallacy of deviation, but not in the same way. The probans of the first one occurs in the locus of the absence of the probandum, and it is *vyabhicārī* (deviating) in this sense. But the probantia of the other two types are not *vyabhicārī* (deviating) in this sense. The probans of the second type is *vyabhicārī* (deviating) in the sense that it does not reside in the locus of the probandum i.e., *sapakṣa*. The probans of the third type is *vyabhicārī* (deviating) in the sense that there is neither *sapakṣa* nor *vipakṣa*. Since there is neither *sapakṣa* nor *vipakṣa*, the cognition of the co-presence of the probans with the probandum or the cognition of the co-absence of the probans with the probandum is not possible. Hence the cognition of any type of invariable concomitance is not possible so long as this defect remains. In spite of these senses of the word '*vyabhicāra*' ('deviation'), all the three types of deviation have one thing in common. Each of them refers to the object of a true cognition which is opposed either to the cognition of the agreement in presence type of invariable concomitance or to the cognition of the agreement in absence type of invariable concomitance.

3. *viruddha* (opposed): If the probans is pervaded by the absence of the probandum, the probans is called '*viruddha-hetu*' ('opposed probans'). Hence the invariable concomitance would be between the probans and the absence of the probandum, not between the probans and the probandum. In other words, wherever the probans is present, the probandum is absent. For example, sound is eternal, because of the property of being an effect. Since an effect is non-eternal, the probans, far from establishing the probandum, establishes the absence of the probandum.

In the case of *viruddha* fallacy, the probans lacks the property of being present in *sapakṣa* and the property of being absent from *vipakṣa*. In other words, it is absent from the loci of the probandum, but is present where the probandum is absent. Hence the agreement in presence (*anvya-sahacāra*) and agreement in absence (*vyatireka-sahacāra*) cannot be observed. From this it follows that neither the invariable concomitance in presence nor the invariable concomitance in absence can be cognised. Moreover, since both the types of invariable concomitance are false, the defect would be the falsity of the invariable concomitances. Hence the cognition of this defect will be opposed to the cognition of both the types of invariable concomitance and thereby both the types of operation. It is also opposed to the inferential cognition. Since it is a permanent defect, it may be called 'logical fallacy.'

4. *satpratipakṣa* (existence of counter-thesis): The word '*satpratipakṣa*' has two meanings. It may mean either the thesis of the opponent or a type of defect (*doṣa*) which will prevent an inferential cognition. In the context of a debate it simply means the thesis of one's opponent, which tries to establish the opposite conclusion. Hence there would be two operations so that two opposite conclusions can be established. The operation of the proponent has the form:

   a) *p* has *h* which is pervaded by *s*, but the operation of the opponent takes the form:

   b) *p* has counter-*h* (different from *h*) which is pervaded by the absence of *s*.

Since the opponent uses a counter-probans, the word '*satpratipakṣa*,' in a debate, refers to the probans of the operation of the opponent. The opponent tries to establish the conclusion *p* has absence of *s*, which is the contradictory of the conclusion of the proponent. The operations of both the proponent and the opponent may be false, but the conclusions of both of them cannot be false as they are contradictories. Let us consider the following operations of the proponent and the opponent respectively.

   c) The lake has smoke which is pervaded by fire.
   d) The lake has light (counter-probans) which is pervaded by the absence of fire.

The proponent will deduce the conclusion 'The lake has fire,' and the opponent the conclusion 'The lake has absence of fire.' Since the opponent uses a counter-probans to establish the absence of the probandum in the same locus, there is a *satpratipakṣa*. If the opponent uses the probans of the proponent, then it will not be an example of *satpratipakṣa*. For example,

   e) The lake has smoke which is pervaded by the absence of fire. Hence from the very definition of *satpratipakṣa* it follows that the probans of the opponent is different from that of the proponent.

Now let us consider what happens to those who remain non-committal to the thesis of the proponent or the opponent. In our above examples, both c) and d) will generate cognitions in those who are not committed to either of the conclusions. But the operation c) will prevent the occurrence of the inferential cognition which is due to d), and the operation d) will prevent the occurrence of the inferential

cognition which is due to c). Hence we cannot say that these two operations are mutually opposed to each other in the sense that the cognition of c) will prevent the cognition of d) and *vice versa*. But the very existence of *satpratipakṣa* is opposed to the inferential cognitions among the non-committals.

There is another use of the word '*satpratipakṣa*' which identifies a *satpratipakṣa* with a fallacy (*satpratipakṣa doṣa*).

It is to be remembered that a fallacy or a defect (*doṣa*) is the object of a true cognition which is opposed to the occurrence of the operation or the inferential cognition. In our above examples, neither the object of the operation c) nor the object of the operation d) is a defect (*doṣa*), because both the cognitions are false. An example of this type of defect would be the object of a true cognition such as

f) The lake has water which is pervaded by the absence of fire. Therefore, the defect will be the object of any true operation which has the same locus (*pakṣa*) as c) and the counter-probans of this operation is pervaded by the absence of fire.

The operation f) will prevent the occurrence of the inferential cognition 'The lake has fire' which is due to the operation c). Since the object of the operation f) is the defect, the probans of c) will be infected with this defect. Since there is a counter-probans which is pervaded by the absence of fire, the probans of c) lacks the property *asatpratipakṣatva* (the property of not having a counter-probans which is pervaded by the absence of the probandum). But the probans of the opponent used in d) is not infected with this defect as it is also pervaded by the absence of fire. It commits the fallacy of *svarūpāsiddha* (unestablished in the locus). Hence the probans of c) only commits the fallacy of *satpratipakṣa*. But the defect called '*satpratipakṣa doṣa*' is not the object of either c) or d). If the opponent would have used the operation f) instead of the operation d), then f) would have been a *satpratipakṣa*, the object of f) would have been the defect, and the probans of c) would have been infected with this defect. Similarly, the inferential cognition from c) would be prevented by any other operation, the object of which is a *satpratipakṣa* defect.

It may also be noted that whenever there is a fallacy of *satpratipkṣa*, there are other fallacies as well. In the example above, c) commits the fallacy of *svarūpāsiddha* (unestablished in the locus) and *bādha* (absence of the probandum characterising the locus). If a person does not know that the locus is characterised by the absence of the probans and also does not know that the locus is characterised by the absence of the probandum, then also his inferential cognition can be prevented by a true operation the object of which is a defect of *satpratipakṣa*. The fallacy of *satpratipakṣa* is a logical one. Since it does not depend upon the epistemic attitude of the agent, the Nyāya calls it a 'permanent defect' ('*nitya doṣa*').

5. *badha* (absence of the probandum characterising the locus): The fallacy of *bādha* occurs when a probans is used to establish a probandum in a locus which is characterised by the absence of the probandum. For example, Fire is cold, because of substancehood, as in water.

In the case of a *bādha* fallacy the inferential cognition is directly prevented by the cognition of the absence of the probandum in the locus. In the above example, the operation is the cognition expressed by the sentence 'Fire has substancehood which is pervaded by coldness.' This operation will yield the cognition 'Fire is cold. But the cognition 'Fire has absence of coldness' will prevent the occurrence of the inferential cognition. Since the preventer cognition is true, its object is the defect (*doṣa*). Hence the cognition of *badha* fallacy is directly opposed to the inferential cognition.

In the example above, the preventer cognition may be due to direct perception of fire through our sense organs. Since the Nyāya accepts four sources of valid cognition, a preventer cognition may be derived from perception, comparison, verbal testimony, or some other inference.

It may also be noted that whenever there is a *bādha* fallacy, some other fallacy such as *vyabhicāra* (deviation) or *svarūpāsiddha* (unestablished probans in the locus) is also involved. But these fallacies are not directly opposed to the inferential cognition. Hence if someone does not have the cognition of other fallacies in connection with this type of inference, then the inferential cognition will be prevented by the cognition of the *bādha* fallacy i.e., the knowledge that the locus lacks the probandum. Since this type of fallacy does not depend on the epistemic attitude, it is also a permanent defect. From the Nyāya discussion of different types of fallacies it follows that the Nyāya philosophers are dealing not only with the falsity of the premise(s) or the conclusion of a fallacious inference but also with the different ways the operation or the inferential cognition of an inference can be prevented.

20 In this inference the locus (*pakṣa*) is the present cognition of a particular person, the probans (*hetu*) is the property of being a cognition, and the probandum (*sadhya*) is the property of being independent of another cognition of the same person for the use of the same cognition by the same person.

21 *Vyabhicāra* is another type of fallacy. In this case there is a deviation from the rule of invariable concomitance. In other words, if we come across a case where the probans is present but not the probandum, then the inference suffers from the fallacy of *vyabhicāra* and the probans is *vyabhicārī*.

22 In order to avoid the fallacy of *vyabhicāra* it may be said that the probans is not the property of being a cognition, but the property of being the present cognition of a particular person. The locus of inference (*pakṣa*) and the probandum (*sadhya*) would remain the same.

But this move would not be acceptable to the Nyāya philosophers. On this interpretation there will not be any difference between the probans and the limitor of the property of being the locus of the inference (*pakṣatāvacchedaka*), because the locus of the inference is the present cognition of a particular person. As a result, the application (*upanaya-vākya*) will contain the expression 'the present cognition of a particular person has the property of being the present cognition of a particular person.' The limitor of the property of being the locus will be the property of being the present cognition of a particular person. Hence it has the form 'x which is present under the mode F has F.'

According to the Nyāya theory of understanding the meaning of a sentence, this form of tautology does not generate a cognition in a hearer or a speaker. Hence the application which is a premise of this inference will not generate any cognition. As a result, the operation (*parāmarśa*) will not take place. So the inferential cognition which is causally dependent on the operation will not take place.

23 This remark of the author needs some explanation. Here the author is talking about the causal conditions of the terms of an inferential cognition. The operation (*parāmarśa*) is a causal condition of the inferential cognition and it has the form 'p has h which is pervaded by s,' where p is the locus or the subject of the inference, h is the probans and s is the probandum. h is the pervaded (*vyapya*), s is the pervader (*vyāpaka*), and there is a pervader-pervaded relation between them. In other words, h is pervaded by s, or s pervades h. Hence h has the relational property of being the pervaded (*vyapyatva*), and s has the relational property of being the pervader (*vyāpakatva*). s is the qualificand and the property of being the pervader (*vyapakatva*) is its qualifier. The qualificand-qualifier relation is an epistemic relation between the objects of a cognition and is analogous to the subject-predicate relation between the terms of a sentence at linguistic level.

Since *s* is the qualificand, it has the relational property of being the qualificand (*viśeṣyatā*), and since the property of being the pervader (*vyāpakatva*) is its qualifier, it has the property of being the qualifier (*prakāratā*). Again, these two properties, viz., the property of being the qualificand and the property of being the qualifier, determine each other. In other words, they are correlative properties. Here the author is talking about the property of being the qualificand residing in *s* and its role. This property is a causal condition of the property of being the object (i.e., the relation of a cognition to *s*) which is known as the property of being the probandum (*sādhyatā*) in an inferential cognition. Hence the author is explaining the causal conditions of the relation of an inferential cognition to its objects.

[24] Here the author uses the expression 'the property of being the property-possessor' ('*dharmitva*') which refers to a relational property corresponding to the relation of a cognition to its object. Hence it is an epistemic relational property. This property is also known as 'the property of being the object residing in the property-possessor' ('*dharmī-niṣṭha-viṣayatā*' or 'the property of being the qualificand residing in the property-possessor' ('*dharmī-niṣṭha-viśeṣyatā*).

[25] Here the author has pointed out the causal condition of the relation of the inferential cognition to its subject. Hence he is talking about the locus (*pakṣa*) which has occurred in an operation. In an operation of the form '*p* has *h* which is pervaded by *s*,' *p* is the locus of inference (*pakṣa*). Since *h* which is pervaded by *s* resides in *p*, it is a property of *p*. Therefore, *p* becomes the property-possessor (*dharmī*).

In an operation the cognition is related to *p* which is the locus of the inference. Hence *p* is characterised by an epistemic relational property (*viṣayatā*). This relational property of *p* is a causal condition of the property of being the subject (*uddeśyatā*) residing in the subject of the inferential cognition (*anumiti*).

In this context it is to be noted that the author uses the term 'subject' ('*uddeśya*') instead of 'qualificand' ('*viśeṣya*') to refer to the subject of the inferential cognition. The pair of terms 'subject' ('*uddeśya*') and 'predicate' ('*vidheya*') cannot be equated with the pair 'qualificand' ('*viśeṣya*') and 'qualifier' ('*viśeṣaṇa*') in the context of an inferential cognition, although both the pairs are used to talk about the objects of cognition and refer to correlatives. The terms 'qualificand' and 'qualifier' are used to talk about a cognition which has the form '*aRb*,' but the terms 'subject' and 'predicate' are being used to talk about the objects of an inferential cognition. The 'predicate' refers to what is being inferred or what is to be inferred, and the 'subject' refers to where it is being inferred. In our above form *s* is what is being inferred and *p* is the locus of the inference of *s*.

The inferential cognition may take either of the two forms:

a) *p* has *s*
b) *s* is present in *p* (or *s* is in *p*).

In a) the qualificand is *p* and the qualifier is *s*. In b) the qualificand is *s* and the qualifier is *p*. But the subject and predicate of a) would be the same as the subject and the predicate of b). Since *s* is being inferred in both cases, it remains the predicate in both the cases. Similarly, since *p* is the locus where *s* is being inferred, it remains the subject both in a) and b). Hence in an inferential cognition of the form a), *p* will have the property of being the subject (*uddeśyatā*) and the property of being the qualificand (*viśeṣyatā*), and *s* will have the property of being the predicate (*vidheyatā*) and, the property of being the qualifier (*viśeṣaṇatā*). But in b), *s* will have the property of being the predicate (*vidheyata*) and the property of being the qualificand (*viśeṣyatā*), and *p* will have the property of being the subject (*uddeśyata*) and the property of being the qualifier (*viśeṣaṇata*). Therefore, in order to emphasise the inferential aspect of the cognition, the author uses the term 'subject' which is the correlative of predicate.'

[26] Here the author is talking about the causal conditions of cognising the meaning

of a sentence or a complex expression. It is to be noted that according to the Nyāya theory of a sentence, any complex or non-atomic well-formed expression is a sentence. Hence expressions, such as 'cooks,' 'cooks rice,' 'a king,' 'the king of France,' etc., are treated as sentences. Moreover, the meaning of a complex expression cannot be identified with the meanings of its parts. Similarly, understanding the meaning of a complex expression cannot be identified with understanding the meanings of its parts. The meaning of a complex expression such as 'a red flower' lies in the relation of a red colour to a flower and understanding the meaning of this expression as distinct from knowing the meanings of its parts lies in cognising this relation. Hence the relation between the referents of the two parts is important for both meaning and understanding the meaning.

In the case of a false sentence, the relation does not hold between the referents of its parts, but nonetheless the relation which is cognised at the level of understanding the meaning is real elsewhere or elsewhen. In understanding the meaning of a true sentence the relation which holds good is being cognised. Hence in understanding the meaning of 'the king of Spain' the rulership relation which holds good is being cognised, but in understanding the meaning of 'the King of France' the rulership relation which is cognised does not hold between the king and France, although it is real elsewhere, and has been cognised elsewhere or elsewhen. Therefore, the Nyāya explanation of understanding a false sentence does not involve any reference to an unreal entity.

In this context the author is talking about the way the objects become the objects of cognition when we understand the meaning of a sentence. Here the objects of understanding would be at least two entities and a relation. Each of the objects including the relation will have a separate property of being the object (*viṣayatā*). So the property of being the object residing in the qualificand is called 'the property of being the qualificand' ('*viśeṣyatā*'), the property of being the object residing in the qualifier is called 'the property of being the qualifier' (*prakāratā*'), and the property of being the object residing in the relation of the qualifier to the qualificand is called 'the property of being the relation' ('*saṃsargatā*'). Here the author has pointed out the causal conditions of these properties of being the object.

In order to explain this point let us consider the meaning of an atomic expression such as 'pot' and a sentence in which it occurs such as 'A pot has a red colour.' An atomic expression such as 'pot,' according to the Nyāya, refers to an entity which is included in its ontology. Hence the word 'pot' refers to a pot, and the relation between them is called 'referent – referring' ('*vācya-vācaka*'). Since the Nyāya emphasises the direction of the relation, the relation of a word to its referent is called 'the property of being the referent' ('*vācyatva*'), and the converse of this relation is called 'the property of being the referring' ('*vācakatva*'). Since *vācyatva* is a relational property of a pot in the cognition that a pot is the referent of 'pot,' a pot becomes the qualificand and this relational property becomes its qualifier. Therefore, when the word 'pot' is uttered in the sentence 'A pot has a red colour,' the pot which is cognised has the property of being the qualificand and the property of being the referent (*vācyatva*) residing in this pot has the property of being the qualifier. Since the property of being the qualificand and the property of being the qualifier are correlatives, they are related to each other by the determiner-determined relation (*nirūpya-nirūpaka-sambandha*). The property of being the referent is a causal condition of the property of being the object (*viṣayatā*) which resides in the object of a cognition when we understand the meaning of a sentence. Thus, a pot becomes the object when we understand the sentence 'A pot has a red colour.'

Similarly, a red colour also becomes the object of a cognition when we understand the meaning of this sentence. The property of being the object residing in the red colour is due to the property of being the referent residing in it, and the property of being the referent is due to the relation of the word 'red' to a red colour. This is

how both a pot and a red colour become objects when we understand the sentence 'A pot has a red colour.' Since the pot is the qualificand and the red colour is a qualifier in this cognition, the pot has the property of being the qualificand and the red colour has the property of being the qualifier. Now the causal condition for the difference between these properties is to be stated. The Nyāya claims that this is due to the successor-predecessor relation between the words which have occurred in the sentence 'A pot has a red colour.'

It is also to be noted that this cognition contains not only a pot and a red colour as its objects, but also a relation of a red colour to a pot. Hence this relation also has the property of being the object (*saṃsargatā*). According to the Nyāya, the cognition of the syntactic expectancy (*ākāṅkṣā*) between the words a pot' and 'a red colour' is a causal condition of the property of being the object which resides in the relation of a red colour to a pot. The meaning of this sentence as distinct from the meanings of its parts lies in this relation which is due to syntactic expectancy or revealed by syntactic expectancy (*ākāṅkṣā-bhāsya*).

In this discussion the author has pointed out how the same object can be cognised in different ways such as perception, inference and testimony (or verbal cognition). He has also pointed out how the difference between them is to be explained in terms of their causal conditions.

In this context it may also be noted that the Nyāya philosophers have used the following pairs of terms to characterise the relations of a cognition to its objects:

1. *viśeṣya-viśeṣaṇa* (qualificand-qualifier)
2. *viśeṣya-prakāra* (qualificand-relational qualifier)
3. *pakṣa-sādhya* (locus of inference – probandum)
4. *uddeśya-vidheya* (subject of inferential cognition – predicate)

The qualificand-qualifier (*viśeṣya-viśeṣaṇa*) distinction is applicable to every qualificative or relational cognition (*savikalpaka-jñāna*). A qualificative cognition has the form *aRb*, where *a* is the qualificand, *b* is the qualifier and *R* is the qualification relation which relates *b* to *a*. Hence *a* has the property of being the qualificand (*viśeṣyatā*) and *b* has the property of being the qualifier (*viśeṣaṇatā*). Let us consider the cognitions expressed by the following sentences:

a) A fire is on the mountain.
b) The mountain has a fire.

In a) *a fire* is the qualificand and *the mountain* is the qualifier, while in b) *the mountain* is the qualificand and *a fire* is the qualifier. Since in a) a particular fire is distinguished from other fires in terms of the mountain, the mountain is the qualifier, and since a fire is being distinguished from other fires, it is the qualificand of this cognition. Hence the fire of this cognition has the property of being the qualificand and the mountain has the property of being the qualifier. These relational properties are used to characterise the roles of these objects in this cognition.

In b) a fire is being used to distinguish the mountain from other mountains. Hence it is the qualifier of this cognition. Since this mountain is distinguished from other mountains, it is the qualificand. The property of being the qualificand residing in the qualificand and the property of being the qualifier residing in the qualifier are related to each other by the determiner-determined relation (*nirūpya-nirūpaka-sambandha*) which holds between correlative terms. The category of qualificand-qualifier emphasises the distinguisher-distinguished aspects of the objects of a qualificative cognition.

In both a) and b) the relation of conjunction (or contact) is the qualification relation. According to the Nyāya, the qualification relation is a mode of presentation of the qualifier, not of the qualificand. Hence in a) the conjunction relation is a mode of presentation of the mountain, but in b) it is a mode of presentation of the fire. In general, if a cognition has the form '*aRb*,' the property of being the qualifier residing

in *b* is limited by the relation *R*. When the qualifier of a cognition is presented under the mode of *R*, it is called '*prakāra*' ('relational qualifier'), and it has the property of being the relational qualifier (*prakāratā*). But this feature of a qualifier cannot be universalised. In other words, we cannot claim that every qualifier is presented under the mode of a relation. According to the Nyāya, when one relation is a qualifier of another relation, the former is simply a qualifier (*viśeṣaṇa*), but not a relational qualifier (*prakāra*). Let us consider the following example: A fire is in a pot and the pot is on the mountain. Suppose the fire is related to the pot by the relation *R*, and the pot is related to the mountain by the relation *S*. Hence the fire is related to the mountain by the relation *R* and *S*. In the cognition of the fire being related to the mountain, the relations *R* and *S* are related by the qualificand-qualifier relation (*viśeṣya-viśeṣaṇa-sambandha*). *R* becomes the qualifier of *S* which is its qualificand. The relation of *R* to *S* is not considered a mode of presentation of *R* which is the qualifier. The Nyāya claims that if the relation becomes the mode of presentation of *R*, then there will be an infinite regress at epistemic level. If *R1* is the relation of *R* to *S* and *R1* becomes the mode of presentation of *R*, then *R1* becomes the qualifier of *R*. Again, the relation of *R1* to *R* becomes the modes of presentation of *R1* and so on.

In order to avoid this type of epistemic regress, the Nyāya claims that a relation which is a qualifier of another relation is simply a qualifier (*viśeṣaṇa*), not a relational qualifier (*prakāra*). But in the case of other qualificative cognitions the same object is both a qualifier and a relational qualifier. Hence in the cognition *aRb*, if *b* is presented under the mode *R*, then *b* will have both the property of being the qualifier (*viśeṣaṇatā*) and the property of being the relational qualifier (*prakāratā*).

The other two pairs of terms are used in the context of an inference. In an inference the locus (*pakṣa*) is something where the probandum (*sādhya*) is to be inferred or established. Hence it is usually characterised by a dubious cognition of the probandum. Some Nyāya philosophers have even defined the locus (*pakṣa*) as something where there is doubt about the presence of the probandum. Hence the property of being the locus (*pakṣatā*) may be defined in terms of the dubious cognition of the presence of the probandum.

In an inferential cognition (*anumiti*) which is the result of an inference, the locus (*pakṣa*) is no longer characterised by a dubious cognition, and the probandum is predicated of it with certainty. In order to emphasise this difference in cognitive attitude, the Nyāya philosophers have introduced the terms '*uddeśya*' ('subject') and '*vidheya*' ('predicate'). An inferential cognition has a subject and a predicate. The subject which is the locus of the inference has the property of being the subject (*uddeśyatā*), but not *pakṣatā* which is defined in terms of the dubious cognition of the presence of the probandum in the locus. In order to illustrate this point let us consider the following inference for others:

Thesis (*pratijñā*): The mountain has a fire.

Reason (*hetu*): Because of smoke.

Example (*udāharaṇa*): Wherever there is smoke, there is fire, as in a kitchen, etc..

Application (*upanaya*): The mountain has smoke which is pervaded by fire.

Conclusion (*nigamana*): Therefore, the mountain has a fire.

According to the Nyāya philosophers these sentences will ultimately give rise to an inferential cognition in the hearer. Initially the hearer will understand the meanings of these sentences, and thereafter he will have a mental cognition (*mānasa-jñāna*) of the operation (*parāmarśa*) which will yield the inferential cognition (*anumiti*). Hence

the operation which is a mental cognition is not generated by external sense-organs or by the causal conditions of indirect cognitions (*parokṣa-jñāna*). The inferential cognition may take either the form of the mountain has a fire or the form of a fire is on the mountain.

In the above inference the mountain is the locus (*pakṣa*), and it has the property of being the locus (*pakṣatā*) which is explained in terms of doubt about the presence of the probandum in it. Hence the mountain becomes the locus of this doubt. Moreover, the mountain is the subject as we are trying to establish the presence of fire on it. Since it is fire which is to be established, it is the predicate of the mountain. For this reason the presence of fire on the mountain is not known to us, although the mountain is already known to us. Hence the subject is already known to us, but not the predicate. Since the mountain is the subject, it has the property of being the subject (*uddeśyatā*). Since the mountain is presented under the mode of mountainhood; it is the limitor of the property of being the subject (*uddeśyatāvacchedaka*). Similarly, mountainhood is also the limitor of the property of being the locus of inference (*pakṣatāvacchedaka*). So the Nyāya has drawn the distinction between the subject (*uddeśya*), the locus of the inference (*pakṣa*), the property of being the subject (*uddeśyatā*), and the property of being the locus of the inference (*pakṣatā*).

In the cognition generated by the thesis (*pratijñā*) of the above inference the mountain is the subject and it has the property of being the subject. It is also something where there is doubt about the presence of the probandum. Hence it is the locus of the inference (*pakṣa*), and has the property of being the locus (*pakṣatā*). Since there is no such doubt in the inferential cognition, the mountain does not have *pakṣatā* in the inferential cognition, although it remains the locus (*pakṣa*) as there was doubt about the presence of the probandum. Since it remains the subject (*uddeśya*), it has the property of being the subject (*uddeśyatā*). Thus the Nyāya philosophers have shown the distinction between the cognition generated by the thesis (*pratijñā*) and the inferential cognition (*anumiti*) which is the result of an inference.

In our above example, if the inferential cognition takes the form 'The mountain has a fire,' then the mountain is the qualificand (*viśeṣya*) of this cognition and hence has the property of being the qualificand (*viśeṣyatā*), and the fire is the qualifier (*viśeṣaṇa*) and hence has the property of being the qualifier (*viśeṣaṇatā*). Since the relation of the fire to the mountain is the mode of presentation of the fire, it is also the relational qualifier (*prakāra*) and hence has the property of being the relational qualifier (*prakāratā*). The fire is also the predicate (*vidheya*) or the probandum (*sādhya*) as it is something which is being established or was not known to be present on the mountain. Hence it has the property of being the predicate (*vidheyatā*) or the property of being the probandum (*sādhyatā*).

If the inferential cognition takes the form 'A fire is on the mountain,' then also the subject (*uddeśya*) and the predicate (*vidheya*), or the locus (*pakṣa*) and the probandum (*sādhya*) of the inferential cognition would remain the same. Hence the mountain is the subject (*uddeśya*) or the locus (*pakṣa*), and the fire is the predicate (*vidheya*), or the probandum (*sādhya*) of this cognition. But the mountain ceases to be the qualificand of this cognition. Since the fire becomes the qualificand (*viśeṣya*), it has the property of being the qualificand (*viśeṣyatā*). Similarly, since the mountain becomes the qualifier (*viśeṣaṇa*), it has the property of being the qualifier (*viśeṣaṇatā*). The relation of the mountain to the fire becomes the mode of presentation of the mountain. Hence the mountain becomes the relational qualifier (*prakāra*) and has the property of being the relational qualifier (*prakāratā*). But the relation between the mountain and the fire has only the property of being the relation (*saṃsargatā*) which relates the cognition to the relation.

The above analysis of the Nyāya shows how a cognition is related to its objects. It also reveals the different ways the same cognition is related to the same object.

Hence this discussion might throw some light on the phenomenological discussion of cognition.

[27] In this paragraph the author has pointed out the causal conditions of the property of being the object (*viṣayatā*) of perceptual, inferential and verbal cognitions. Since analogy (*upamāna*) is also a source of valid cognition according to the Nyaya philosophers, it requires a similar explanation. In an analogical cognition (*upamiti*) we primarily cognise the property of being the referent of an expression (*vācyatva*). Hence it takes the following form:

A) *y* is the referent of '*x*,' where '*x*' is an expression and *y* is its referent.

In this cognition *y* is the qualificand (*viśeṣya*) and hence it has the property of being the qualificand. The property of being the referent of '*x*' (*vācyatva*) is the relational qualifier (*prakāra*). Hence it has the property of being the relational qualifier (*prakāratā*).

An analogical cognition presupposes the cognition of the following sentence:

B) That which is similar to *z* is the referent of '*x*,' where *z* is the referent of the term '*z*' which is different from '*x*,' and the cogniser already knows the referent of '*z*,' but not the referent of '*x*.'

Moreover, an analogical cognition presupposes a perceptual cognition which is described by the following sentence:

C) This is similar to *z*.

In the cognition generated by B), that which is similar to *z* is the qualificand (*viśeṣya*) and the property of being the referent of '*x*' is the relational qualifier (*prakāra*). Hence the former has the property of being the qualificand and the latter the property of being the relational qualifier (*prakāratā*). In the perceptual cognition C), the object indicated by the word 'this' is the qualificand, and the property of being the qualificand is limited by y-ness. Similar-to-*z* is the relational qualifier which has, therefore, the property of being the relational qualifier.

Now we have to point out the causal conditions of the property of being the qualificand (*viśeṣyatā*) and the property of being the relational qualifier (*prakāratā*) of the analogical cognition A). The causal condition of the property of being the qualificand residing in *y* is the property of being the qualificand residing in the perceptual cognition C). The property of being the qualificand of the perceptual cognition is limited by *y*-ness and determined by the property of being the relational qualifier residing in similar-to-*z*. The causal condition of the property of being the relational qualifier residing in the property of being the referent of '*x*' is the property of being the relational qualifier of the cognition generated by B). Hence the verbal cognition B) and the perceptual cognition C) are indispensable for the properties of being the qualificand and the qualifier of the analogical cognition A). Let us illustrate with an example of the Nyaya philosophers:

A′) *Gavaya* is the referent of the word '*Gavaya*'.
B′) That which is similar to a cow is the referent of the word '*Gavaya*'.
C′) This is similar to a cow.

In this example, A′) is the analogical cognition, and it presupposes the understanding of the meaning of the sentence B′) and the perceptual cognition expressed by C′). The property of being the qualificand in C′) and the property of being the qualificand in A′) are limited by the same limitor, but not determined by the same determiner. In this example, both the properties of being the qualificand are limited by gavayaness (*gavayatva*). But the property of being the qualificand of C′) is determined by the property of being the relational qualifier residing in similar-to-a-cow, and the property

of being the qualificand residing in A′) is determined by the property of being the relational qualifier residing in the property of being the referent of '*gavaya*.'

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COGNITION OF COGNITION

PART II

Among the followers of non-self-revealing theory the supporters of the Bhāṭṭa Mīmāṃsā claim that a cognition is inferable. Now we are going to discuss their view in a general way. According to this view a cognition, such as the cognition of a pot, reveals the object pot, but not the cognition of a pot. The cognition of a pot is revealed by an inference. The probans (*hetu*) of a cognition, according to this view, is the property of being cognised (*jñātatā*). When an object such as a pot is revealed, we come to know the pot. Hence the property of being cognised is produced in the object pot, and this is the property of a known object. This property of being cognised is the probans by means of which we infer a cognition (*jñāna*). According to this view the property of being cognised (*jñātatā*) is not the same as the property of being the object (*viṣayata*) of the Nyāya and some other systems who have explained it in terms of the relation between a cognition and its object. For, this type of property of being the object which is cognised cannot be used as a probans to infer a cognition. The cognition of the probans is necessary prior to the inferential cognition. If the cognition of the probans is dependent upon the cognition of the probandum, then we cannot infer the probandum, because the probans cannot be cognised unless the probandum is cognised and the probandum cannot be cognised unless the probans is cognised. If the property of being the object (*viṣayatā*), which is a relation between a cognition and its object, is considered as the probans, then the cognition of the probans is dependent upon the cognition of the probandum which is a cognition in this case and one of the relata of this relational property.[1] In other words, the cognition of the probans is dependent upon the cognition of the probandum, because the cognition of a relation presupposes the cognition of its two relata.[2] For example, we cannot cognise the relation of conjunction between the pot and the floor unless we have

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already cognised the pot and the floor. Here also since the property of being the object is the relation of a cognition to its object, the cognition of it is dependent upon the cognition of this cognition. In other words, the cognition of the probans which is the property of being the object is dependent upon the cognition of the probandum. Since the probandum is inferred from the probans, the cognition of the probandum is dependent upon the cognition of the probans. Again the cognition of the probans is dependent upon the cognition of the probandum. Since these two cognitions are mutually dependent, the inference of the above probandum is not possible. For this reason, according to the Bhāṭṭa theory, the property of being cognised is not a relational entity. It is a property which is due to a cognition, but resides in the cognised object. Another name for it is '*prākaṭya*.' Hence as the cognition of an object such as a pot reveals the pot, the potness which is its class-character and present in it, along with its other qualities, so does it reveal the property of being cognised (*jñātatā*) which is present in the same pot. Therefore the property of being cognised is cognised by the cognition of the object (*viṣaya-jñāna*). This property of being cognised is the probans, by means of which we infer the cognition. In this way the followers of this view try to establish their thesis.

But this argument of the followers of the Bhāṭṭa school of Mīmāṃsā is not acceptable to their opponents. They think that the property of being cognised (or *prākaṭya*) which is claimed to be the product of cognition residing in its object is not amenable to experience (i.e., we cannot apprehend it). If it is said that in a sentence such as 'He cognises a pot,' a pot is the object of the verb, and the verb 'to cognise' (*jñā*) means the action of cognising, then a result is produced in the object which is due to the action. The property of being the object (*karmatva*) has been defined by the Grammarian philosophers as the property of being the locus of the result which is due to an action.[3] When we say 'He is cooking rice,' rice is the object (*karma*) because the softening of rice, which is the result of the act of cooking, occurs in rice. Similarly, when it is said 'He cognises a pot,' a pot is the object. Since a pot is the object of this action, we have to admit some result in the pot which is due to the action of cognising. This result is the property of being cognised (*jñātatā* or *prākaṭya*). In this way, the property of being cognised is to be established.

But the opponents of this view claim that in the case of 'He is cooking rice' we can experience (or apprehend) the result in the object *rice* which is due to the act of cooking, but in the case of 'He cognises a pot' we do not experience any result in the pot which is due to the

act of cognising. An object along with its properties is revealed to us in a valid cognition. But no new property is produced in an object such as a pot when it is cognised. In the case of 'He cognises a pot,' it cannot be said that a pot is *karma* (object) due to the fact that a result which is due to the act of cognising resides in it; because in such cases no result resides in a pot which is due to the act of cognising. On the contrary, in this case, the property of being the object (*karmatva*) is the property of being the object of the act of cognising (*Kriyā-viṣayatava*). If the meaning of a verbal root signifies an object, then its meaning is an action having an object (*saviṣayaka-kriyā*). In the case of an action having an object, the property of being an object (*karmatva*) is nothing but the property of being an object of the action (*kriyā-viṣayatva*). In cases such as cognition (*jñana*), desire (*icchā*), mental effort (*kṛti*), the meaning of a verbal root is an action having an object (*saviṣayaka-kriyā*). Hence in such cases objecthood (*karmatva*) is the property of being the object of an action. Therefore, the object of a cognition is the object of the verb 'to cognise.' Similarly, we have to understand actions such as desire, mental effort, etc.

Now the supporters of the Bhaṭṭa school claim that the use of a thing presupposes our cognition of it. It is not possible to use a thing if it has not been experienced. Hence it may be said that the ability to use a thing is due to our cognition of it, because an unknown thing cannot be used. The result of cognising activity is this property of being able to use an object (*vyavaharayogyata*). In the case of the verb 'to cognise,' the property of being the object (*karmatva*) is the ability to use the object of this verb. Hence the property of being able to use the object is to be treated as the property of being cognised (*jñatata* or *prākaṭya*), and this property is the probans for inferring the cognition.

Now the critics of this view claim that this interpretation also does not have any substance to it. For, there is no harm in identifying the property of being able to use an object with the property of being the object (*viṣayata*) which is nothing but the relation of a cognition to its object. Hence there is no argument for the acceptance of the property of being able to use an object (*vyavaharayogyata*) which is produced by a cognition and which is over and above the property of being the object (*viṣayata*).

Now the upholders of the property of being cognised view might claim that the property of being able to use an object is the same as the property of being the object which is due to a cognition. This property of being the object is the same as the property of being cognised (*jñatata*). This interpretation, however, is not acceptable to their opponents. For,

the property of being the object is the relation of a cognition to its object, and therefore it can never be due to the cognition. If the property of being the object were due to a cognition, then it would occur only after the occurrence of the cognition. This is due to the fact that an effect presupposes the prior existence of its cause. Hence, according to this view, when a cognition is produced, there is no relation between the cognition and its object. Therefore, the objection is that since a cognition at the moment of its origination is not related to any object, it remains objectless at that moment. But there cannot be a cognition devoid of any object. Hence the view that the property of being the object is due to a cognition is not acceptable. Now it may be asked: If the property of being the object is not due to a cognition, then what is its cause? As an answer to this question it has already been said that the causal conditions[4] for the property of being the object are the contact with sense-organs and certain other conditions. The contact with a sense-organ which produces a cognition is causative (*prayojaka*) of the property of being the object. Hence both a cognition and the property of being the object are produced at the same time. For this reason the Nyāya philosophers claim that a cognition and the property of being the object of that cognition are produced simultaneously. Moreover, it has already been said that the property of being the object which is the same as the relation of a cognition to its object cannot be used as a probans to infer a cognition.

Now the supporters of the property of being cognised thesis might claim that even if the property of being cognised (*jñātatā*), which is due to a cognition and resides in the object, cannot be proved by perception or the above-mentioned argument, it can be proved by the following inference.

It has been admitted by many philosophers including the Nyāya philosophers that numbers such as two, etc. are properties and they are produced in the object of cognition by a conjunctive cognition which includes several ones as its objects (*apekṣā-buddhi*).[5] Hence it is not impossible for a cognition to be one of the causal conditions of a property which resides in its object. Now the example of the conjunctive cognition of several ones which produces a property in its object may be used to demonstrate that every cognition has the property of being an agent or cause (*janakatva*) for the production of a property in its own object. The inference may be stated in the following way:

A cognition such as the cognition of a pot, which is different from the conjunctive cognition of several ones, is the ultimate causal condition for the production of a property in a pot, because of the property of

being the cognition of a pot. Wherever there is the property of being the cognition of a pot, there is the property of being the ultimate cause of a property which resides in the pot. For example, the conjunctive cognition of this is one pot and that is another pot generates the number two which resides in those two pots.

In this inference the locus (*pakṣa*) is the cognition of a pot which is different from the conjunctive cognition of several ones, the probandum (*sādhya*) is the property of being the ultimate cause of a property residing in the pot which is the object of this cognition, and the probans (*hetu*) is the property of being the cognition of a pot.

A conjunctive cognition, such as this is one pot and that is another pot, produces the number two in the objects of this cognition. Hence this conjunctive cognition has both the property of being the cognition of a pot, and the property of being the ultimate cause of the number two which resides in those pots which are the objects of this cognition. The former property is the probans and the latter the probandum of this inference. From this example the following rule may be formulated: Every cognition produces some property in the cognised object. If we accept this rule, then the cognition of a pot or the cognition that this is a pot, which is different from a conjunctive cognition of ones, would also produce some property in the pot. This produced property is to be called 'the property of being cognised' or '*prakaṭya*,' and thus it is to be inferred. In this inference the property of being different from the conjunctive cognition of ones is to be considered as a qualifier of the locus of inference. Here the word 'different from the conjunctive cognition of ones' is necessary, because the conjunctive cognition of ones is to be considered as an example for the above rule. Only a *sapakṣa* can be an example. A *sapakṣa* is a locus of the probandum which is known to be present in that locus, but the *pakṣa* is not characterised by certainty. There is some doubt about the presence of the probandum in the *pakṣa*. Hence the locus of the inference (*pakṣa*) can never be taken as an example. For this reason the property of being different from the conjunctive cognition of ones is to be considered as a qualifier of the locus in the above inference.

The opponents of the property of being cognised thesis do not consider this inference to be free from defects. They treat the property of being the conjunctive cognition of ones as an *upādhi*.[6] A property is an *upadhi* if and only if it is a pervader of the probandum, but not of the probans. Wherever there is the probandum, namely, the property of being the ultimate cause of the property residing in the object, there is the property of being the conjunctive cognition of ones. This is due to

the fact that a conjunctive cognition of ones has been accepted by the followers of both the views to be the locus of the probandum, and it is also the locus of the property of being the conjunctive cognition of ones according to the followers of both the views. Thus the followers of both the views would accept the property of being the conjunctive cognition of ones as the pervader of the probandum. But it has not been established to be the pervader of the probans. On the contrary, it has been claimed that the cognition of a pot which is different from the conjunctive cognition of ones and which has the probans, viz., the property being the cognition of a pot, does not have the property of being the conjunctive cognition of ones. Hence the property of being the conjunctive cognition of ones is not a pervader of the probans. In this way the above inference[7] is infected with the defect that the property of being the conjunctive cognition of ones is an *upādhi*.

Moreover, in the above inference the cognition of a pot is the locus of inference (*pakṣa*) and the property of being the cognition of a pot is the probans. The cognition of the locus and the cognition of the probans are causal conditions for the inferential cognition. In this inference[8] the property of being cognised (*jñātatā*) is to be established by the cognition of the cognition of a pot, and the cognition of a pot is to be established by the property of being cognised. Hence this inference involves the fallacy of *anyonyāśraya* (a type of *petitio principii*).[9]

The supporters of the mentally cognised view hold that a cognition is to be perceived by the mind. They claim that it is a fact that a cognition can be apprehended. When a cognition occurs, one cay say 'I have a perceptual cognition of such and such,' 'I have an inferential cognition of such and such,' and so on. Again, when one does not have a cognition of something, one can say, 'I do not have any perceptual cognition of such and such' or 'I do not have any inferential cognition of such and such.' Hence one can apprehend the absence of certain cognitions as well. This type of apprehension of a cognition is neither self-revealing nor is it inferable. Moreover, since in apprehending a cognition, expressions etc. are not always present as causal factors, an apprehension of a cognition cannot be said to be due to expressions. Hence apprehension of a cognition is not a case of a verbal cognition. Therefore it is to be accepted as perceptual in nature. An apprehension of a cognition is not a case of visual perception, because a blind person also can apprehend a cognition. In the same way, it is not a case of tactual perception, because a person who has lost his tactual sense-organ can apprehend a cognition. Since it can be apprehended by those who have lost other external sense-organs, it cannot be said to be due to

any external sense-organ. Hence in order to apprehend a cognition we have to admit some internal sense-organ as a cause of this apprehension over and above the external sense-organs. This internal sense-organ is the mind (*manas*).[10]

The supporters of this view put forward another argument in favour of the perceptual nature of the apprehension of a cognition. It is claimed that a cognition or a feeling such as happiness is present at the time of its apprehension. In other words, a mental state such as a cognition or a feeling is always present before its apprehension.[11] A cause is always an immediate predecessor of its effect. Hence it has the property of being the immediate predecessor of its effect. A cognition which is to be apprehended has the property of being the immediate predecessor of this apprehension. From this it follows that a cognition or any other mental state which is to be apprehended and which is the object of this apprehension is a cause of this apprehension. An object is not considered as a cause for an indirect cognition of it, but it is a cause for its perceptual cognition. From the fact that a cognition which is the object of apprehension is a cause of its apprehension, it follows that the apprehension of a cognition is perceptual in character.

In order to establish their view the supporters of the mental-perception theory put forward the following argument:

A cognition can be perceived because it is a special property of the self, destroyed at the third moment of its origination (*aśuvinaśi*) like the feeling of pleasure.

According to the Nyaya-Vaiśeṣika a cognition or a felling such as pleasure lasts for two moments, and it is destroyed at the third moment of its origination. The word '*aśuvinaśi*' used in this inference refers to an entity which is destroyed (or ceases to exist) at the third moment of its origination. The special qualities of the self such as cognition, pleasure, pain, desire, aversion and volition are all of this type.[12] All of them are perceivable. Hence the above inference does not have any fault.

Hence after having a non-dubious qualificative cognition (*vyavasaya-jñana*) such as the cognition of a pot, the cognition which occurs can be expressed by the sentence 'I know a pot.' According to the upholders of this theory the latter cognition is the mental perception of the former cognition. In the sentence 'I know a pot' which expresses this higher order cognition (*anuvyavasaya*) the word 'I' refers to the self which is the qualificand, the verb 'know' refers to a cognition which is the qualifier of the self, and the words 'a pot' refer to the object which is the qualifier of the latter cognition. Hence the cognition *I know a pot*

reveals the self qualified by the cognition which has a pot as its object. According to this view this cognition is a case of perception.

Now the sense-organ which gives rise to this perception must be related to each of the items of this cognition. The relation of the mind (*manas*) to the self is a conjunction. The relation of the mind to the cognition is an indirect relation of conjunction-cum-converse of inherence, because a cognition resides in the self by the relation of inherence. The relation of mind (*manas*) to a pot is a complex relation of conjunction-cum-the converse of inherence-cum- the property of being the object, because the non-dubious qualificative cognition which resides in the self by the relation of inherence has a pot as its object.[13] Therefore, since in a higher order cognition (*anuvyavasaya*) all the items are related to the mind (*manas*), there is no harm in calling the higher order cognition a mental perception.

Now an objection may be raised against the above thesis in the following way. If a first order qualificative cognition (*vyavasaya*) is due to the relation of conjunction-cum-converse of inherence with the mind (*manas*), then the second order qualificative cognition (*anuvyavasaya*) should also be due to the same relationship with the mind (*manas*) as this is also a cognition. When a second order cognition occurs, it is related to the self by the relation of inherence. Hence at the time of the occurrence of a second order cognition the mental sense-organ (*manas*) is related to it by the relation of conjunction-cum-converse of inherence. Therefore, after the second order cognition there should be a cognition of this cognition (i.e., third order cognition). Since the third order cognition is also a cognition and it is also due to this relationship with the mental sense-organ (*manas*), there should be a cognition of the third order cognition. In this way a series of one type of cognition will continue without any break (or end). Hence there will not be any scope for the occurrence of any other cognition or feeling such as pleasure or pain, and the apprehension of such mental states.

In reply the supporters of this view claim that it is not necessary that there will be a cognition of a cognition if there is a cognition. In other words, it is not a law that whenever a cognition occurs there will be a cognition of it. Hence after the occurrence of the cognition of a pot there is a mental perception (or *anuvyavasaya*) of the cognition of a pot due to the contact with the internal sense organ (*manas*) and other causal factors. But there is no such law that there will be a mental perception of this second order cognition. Hence when there is no mental perception of a higher order cognition, another mental state will occur. In this way the objection that the occurrence of a second order

mental state will prevent the occurrence of other types of mental states can be answered.

An objection has been raised against this reply. When a cognition occurs, it is related to the self by the relation of inherence and the internal sense-organ (*manas*) is related to the self by a conjunction relation. Hence at the time of the occurrence of a cognition the causal conditions for the cognition of this cognition are always present. By virtue of the causal law there will be a cognition of this cognition or the revelation of this cognition, the cognition of this second order cognition, and so on. Hence the above objection that the series of higher order cognitions will continue endlessly and thereby will prevent the occurrence of any other type of cognition or mental state cannot be refuted.

In reply it is said that it is a fact of our apprehension that we do have cognitions of different objects or different types of mental states. If every cognition is known through the internal sense-organ (*manas*), then the cognition of other objects, which is a fact of our apprehension, might not be possible. For this reason we do not accept the thesis that every cognition is amenable to our sense-organs. Hence certain cognitions cannot be cognised through sense-organs (*atīndriya*). If a cognition is not amenable to sense-organs, then a cognition of this cognition will not be possible. The series of higher order cognitions will end with this cognition. In other words, we start with a qualificative cognition, then we have a cognition of this cognition, and then we have a cognition of this cognition, and then another cognition of this cognition. After having a few higher order cognitions, there will be a cognition which is not amendable to the sense-organs. When this type of cognition is produced, the above series of cognitions will come to an end, and thereby the occurrence of another mental state will not be prevented. But as to the limit of the higher order cognitions there is no fixed rule. If we apprehend that a cognition is revealed to us, then the cognition of this cognition is to be accepted. Again, if the second order cognition is also apprehended, then we have to admit the cognition of it as well. But this process cannot go on for ever. At some point it will come to an end. The cognition with which this process will come to an end will not be amenable to sense-organs.

Alternatively, the above objection can be answered in terms of the relative strength of a cognition or mental state. The causal conditions of a feeling such as pleasure or the causal conditions of the cognition of pleasure are stronger than the causal conditions of the cognition of a cognition. Hence if the causal conditions of a feeling such as

pleasure and the causal conditions of a higher order cognition are present simultaneously, then the feeling of pleasure (or happiness) will occur, not the higher order cognition. Similarly, when the causal conditions of a higher order cognition and the causal conditions of the cognition of a feeling such as happiness are present simultaneously, the cognition of happiness will occur as its causal conditions are stronger than the causal conditions of the second order cognition.

The cognition of a cognition is a mental cognition (*mānasa-jñāna*). The causal conditions of inferential cognition, a verbal cognition, or an analogical cognition (*upamiti*) of some other object are stronger than the causal conditions of a mental cognition.[14] Otherwise, instead of having an inferential cognition after the operation (*parāmarśa*) of an inference, there will be a cognition of this operation, and thereafter a cognition of this higher order cognition and so on. Thus the inferential cognition (*anumiti*) will be prevented. Similarly, in the case of a verbal cognition, after having cognised a word which has occurred in a sentence there will be a higher order cognition of this cognition and thereafter a cognition of this higher order cognition and so on. Thus the series of higher order cognitions will prevent the occurrence of the verbal cognition (i.e., understanding the meaning of a sentence or a complex expression).[15] In the case of comparison (*upamana*) which is another source of valid cognition, the cognition of resemblance (*sadṛśya-jñana*), instead of generating the analogical cognition (*upamiti*), will generate a higher order cognition and the latter will generate its cognition and so on. Hence the analogical cognition (*upamiti*) will never take place.

Again, in the case of a continuous perception such as visual perception, the occurrence of the first cognition does not lead to a series of higher order cognitions. After the first visual cognition, there will be a second visual cognition, and so on.[16] From this it follows that the causal conditions of cognitions which are due to external sense-organs are stronger than the causal conditions of mental or internal perception (*manasa-pratyakṣa*). Stronger causal conditions will prevent the occurrence of the effects which are due to weaker causal conditions.

Hence the causal conditions which are stronger than the causal conditions of a higher order cognition will be considered as preventers of the higher order cognition. When both the causal conditions are present, the effects of the stronger causal conditions will take place, and the effects of the weaker causal conditions will be prevented by the stronger causal conditions. Hence, in the presence of a set of stronger causal conditions, the cognition of some other objects or some other mental state will take place, and the higher order cognition

will be prevented. This is how the objection that a series of higher order cognitions will prevent the occurrence of other cognitions can be answered.

Now the supporters of the self-revealing theory raise another objection against the above view in the following way:

The question is whether an initial qualificative cognition (*vyavasāya*) and the cognition of this cognition are due to the same conjunction relation which relates the internal sense-organ (*manas*) to the self or whether they are due to different conjunction relations. If they are due to the same conjunction relation, then there cannot be any difference between these two cognitions. For, in this case we have to admit that if the similar-to-inherent (*asamavāyī*) causes are different, then their effects are also different. The similar-to-inherent cause (*asamavāyī-kārana*) of a cognition is the relation between the internal sense-organ (*manas*) and the self. There cannot be any difference between a qualificative cognition and its second order cognition unless their similar-to-inherent causes, viz., the conjunction relations between the internal sense-organ (*manas*) and the self, are different. If the conjunction relation between the internal sense-organ (*manas*) and the self which is the similar-to-inherent cause (*asamavāyī-kāraṇa*) of a qualificative cognition is different from that of its second order cognition, then there cannot be any perception of the cognition or the second order cognition. For, according to this view, a cognition lasts for two moments. In order to have another conjunction relation between the internal sense-organ (*manas*) and the self after the occurrence of a qualificative cognition four moments are necessary. The first moment is the origination of action in the internal sense-organ (*manaḥ-kriyā*). The second moment is the separation due to this action. The third moment is the cessation of the previous conjunction relation. The fourth moment is the origination of a new conjunction relation. Since the qualificative cognition will cease to exist prior to the occurrence of the new conjunction relation, there cannot be any mental perception of this cognition. A perception is always of a present object, not of past object. In this case the qualificative cognition will cease to exist long before the occurrence of the second order cognition which presupposes another conjunction relation between the internal sense-organ (*manas*) and the self.

In reply, the followers of the Nyāya claim that there might be different effects even if their similar-to-inherent causes are not different. When a weaver makes a cloth out of some threads, the similar-to-inherent cause of the colour of the cloth is the colour of the threads and the threads are inherent causes of the cloth. Now if the weaver separates

the threads from the cloth and makes a new cloth out of the same threads, the similar-to-inherent cause (*asamavāyī-kāraṇa*) of the colour of the second cloth is the colour of the same threads. Since both the cloths have the same inherent causes which are threads, the colours of both the cloths have the same similar-to-inherent causes which are the colours of the threads. Since there are two different colours of two cloths, there are two effects. Hence there might be different effects even if the similar-to-inherent cause remains the same. Similarly, in the case of a qualificative cognition and its second order cognition (i.e., the cognition of this cognition), there is no harm in having two different effects even if there is only one conjunction relation between the internal sense-organ (*manas*) and the self, which is the similar-to-inherent cause of both of them.

Now the opponents of this view claim that the difference between effects can sometimes be due to difference in their inherent (*samavāyī*) causes or sometimes be due to difference in their similar-to-inherent (*asamavāyī*) causes. But in the case of a qualificative cognition and the cognition of this cognition the same self remains the inherent cause. Hence in this case the difference between them cannot be explained in terms of their inherent causes.

For this reason here we have to admit the difference in their similar-to-inherent causes to account for the difference in effects. In the above example the colours of two cloths have the same similar-to-inherent causes, but their difference can be explained in terms of their difference in inherent causes. For this reason we have to admit different similar-to-inherent causes to account for the difference between a qualificative cognition and its second order cognition as there is no difference in their inherent causes.

In reply it is said that the difference in effects can be observed even if there is no difference in their inherent causes or in their similar-to-inherent causes. For example, the colour and the taste of an earth-atom are due to contact with heat (or fire). Cooking changes the colour and the taste of an earth-atom. Here the word 'cooking' means a special type of contact with fire, and 'change of colour and taste' means the destruction of previous colour and taste, and the creation of new colour and taste. The inherent cause of the change in colour and taste, which is due to cooking, is an earth-atom, and the similar-to-inherent cause of this change is the contact with heat (or fire). Hence the inherent cause of both the colour and the taste is the same earth-atom, and the similar-to-inherent cause is also the same contact with the heat, but the effects, viz., the change in colour and the change in taste, are different.

Therefore, the effects could be different even if the inherent cause and the similar-to-inherent cause remain the same. Similarly, there is no harm in accepting a qualificative cognition and its second order cognition as two different effects of the same inherent and similar-to-inherent cause.

Now it may be asked, if a qualificative cognition and its second order cognition do not differ with respect to their inherent and similar-to-inherent causes, then what does explain their differences? In reply, it is said that they are different due to their different instrumental (*nimitta*) causes. The instrumental cause of a qualificative cognition such as a visual perception is the visual sense-organ, but it is not a cause of the cognition of this cognition. Again, the instrumental cause of the cognition of this cognition is the qualificative cognition, but the cognition of this cognition is not a cause of the qualificative cognition. Hence a qualificative cognition and its cognition have different instrumental causes. It is due to their difference in instrumental causes that a qualificative cognition and its cognition which are effects are different.

Now another objection has been raised against this view in the following way: In the second order cognition expressed by the sentence 'I know this is a pot,' the self which is the referent of the word 'I' is the qualificand, and the cognition is the qualifier. In this cognition the property of having a pot as an object (*ghatavisayakatva*) and cognitionhood are qualifiers. Hence the second order cognition may be described as a cognition which is qualified by a cognition which is qualified by cognitionhood. Now a cause of the cognition qualified by the cognition which is qualified by cognitionhood is the cognition of the cognition qualified by cognitionhood. Hence the second order cognition presupposes the cognition of the cognition qualified by cognitionhood. Again, the cognition of the cognition qualified by cognitionhood presupposes the cognition of cognitionhood. If the cognition of cognitionhood is the same as the cognition of the cognition qualified by cognitionhood, then again we require the cognition of cognitionhood. If this process goes on, then there will be an infinite regress. In order to avoid this type of infinite regress a type of cognition called 'non-qualificative cognition' ('*nirvikalpaka-jñāna*')[17] has been postulated. In a non-qualificative cognition both the cognition and the cognitionhood become objects, but they are not related to each other. After having a non-qualificative cognition we have the cognition of the cognition qualified by cognitionhood. Thereafter one can have the cognition of I (self) qualified by the cognition which is qualified by cognitionhood. This second order

cognition is expressed by the sentence 'I know this is a pot.' On this point an objection has been raised by the opponents of the Nyāya.

It is claimed that the cognition of the cognition qualified by cognitionhood, which is presupposed by the second order cognition, cannot take place. For, the non-qualificative cognition of cognitionhood, which is presupposed by the cognition of the cognition qualified by cognitionhood, destroys the initial qualificative cognition (*vyavasāya*) which is the qualificand of the cognition qualified by cognitionhood. It can be demonstrated in the following way: First, there is a qualificative cognition which is expressed by 'This is a pot.' Just after this cognition there is a non-qualificative perception of the cognition and cognitionhood. Right after this cognition we have to admit the cognition of the initial qualificative cognition (*vyavasāya-jñāna*) qualified by cognitionhood. Since according to the Nyāya-Vaiśeṣika a cognition lasts for two moments only, when we are supposed to cognise the initial qualificative cognition qualified by cognitionhood, the initial qualificative cognition ceases to exist. According to the law of perception, a perceptual cognition and its qualificand (*viśeṣya*) must exist at the same time. Past and future objects cannot be qualificanda of perceptual cognitions. The qualificand (*viśeṣya*) of the perceptual cognition the object of which is a primary qualificative cognition (*vyavasaya-jñana*) qualified by cognitionhood is the primary qualificative cognition. This qualificative cognition ceases to exist at the third moment of its origination. In other words, since it ceases to exist just after the origination of the non-qualificative cognition, we cannot have the perceptual cognition of this qualificative cognition qualified by cognitionhood. Again, unless we have the cognition of the cognition qualified by cognitionhood, in other words, the cognition of the primary qualificative cognition (*vyavasaya-jñāna*) qualified by cognitionhood, we cannot have the cognition of the self qualified by the cognition which is qualified by cognitionhood. As a result, the second order cognition becomes impossible.

In order to answer this objection Acarya Udayana said that there is no second order cognition of the first qualificative cognition. According to him right after the first qualificative cognition there will be a non-qualificative cognition of the previous qualificative cognition and cognitionhood. After this non-qualificative cognition there will be another qualificative cognition, the object of which will be the same as the object of the previous qualificative cognition. Just after the origination of the second qualificative cognition, the cognitionhood which has been cognised in the previous non-qualificative cognition becomes the qualifier of the second qualificative cognition. Hence there is no

difficulty in having a cognition of the cognition qualified by cognitionhood. According to this view the first qualificative cognition is the object of the non-qualificative cognition, but the second qualificative cognition is not an object of any non-qualificative cognition. It is the object of a cognition qualified by cognitionhood.[18]

Now the question is, if there is no second order cognition of the first qualificative cognition, then what is the proof for the occurrence of the first qualificative cognition? It is claimed that the proof for the existence of a cognition lies in the apprehension of it. If a cognition is not an object of apprehension, its existence cannot be proved (or established).

As an answer to this objection it is said that the perceptual apprehension of a cognition is not the only proof for the existence of a cognition. For example, there is no perceptual apprehension of a non-qualificative cognition, but still it has been established as a cause of a qualificative cognition. The existence of the first qualificative cognition can be established in the following way: One of the causal conditions of the second order cognition is a qualificative cognition. This qualificative cognition is the cognition of a cognition qualified by cognitionhood. This qualificative cognition is the cognition of the second qualificative cognition qualified by cognitionhood. One of the causal conditions of the latter is the non-qualificative cognition of cognitionhood and the cognition (i.e., the first qualificative cognition). Hence the first qualificative cognition is a cause of the non-qualificative cognition. This is how the first qualificative cognition is to be established.

But according to Vardhamana Upadhyaya, a Nyaya philosopher, the above solution to the problem offered by Acārya Udayana is not universally valid. In other words, this type of solution is not possible in all cases. He claims that the second qualificative cognition, in terms of which the solution has been offered, cannot occur in those cases where its causal conditions are not present. Hence the second order cognition will not take place in such cases.

Even if the second qualificative cognition can always be postulated in the case of a perceptual qualificative cognition which is due to the contact between a sense-organ and an object, it is impossible to postulate second qualificative cognitions in cases such as inferences. This is due to the fact that certainty prevents the occurrence of an inferential cognition. The first inferential cognition which is free from doubt prevents the occurrence of the second one. Hence in the case of an inferential cognition there cannot be a second order cognition of the form 'I infer such and such.' After raising this type of objection

against the solution of Ācārya Udayana, he has proposed the following solutions to the above problem.

First of all, Vardhamāna Upādhyāya does not subscribe to the view that the qualificand of a perceptual cognition must be present at the moment of the origination of the perceptual cognition. On the contrary, he has accepted the view that the qualificand of a perceptual cognition has the property of being the immediate predecessor of the perceptual cognition.[19] In other words, the qualificand is present just before the occurrence of a perceptual cognition. Hence, according to this view, first we have a primary qualificative cognition, and then at the next moment there is a non-qualificative perception of the primary qualificative cognition and cognitionhood. At the third moment there is no difficulty in having a perception of the cognition qualified by cognitionhood. Since a qualificative cognition lasts for two moments, the primary qualificative cognition which is the qualificand of the perception of the cognition qualified by cognitionhood is present just before its occurrence.[20] Hence the above rule that the qualificand has the property of being the immediate predecessor of perception has not been violated.

Secondly, Vardhamāna Upādhyāya has proposed another solution to the above problem without rejecting the view that the qualificand of a perceptual cognition is present at the time of its occurrence. He has claimed that the non-qualificative cognition which occurs just after the qualificative cognition is not non-qualificative (i.e., qualificative) with respect to the cognition; because a cognition can never be revealed (or apprehended) without its object. A cognition being always of something is revealed as being related to its object. Hence when a cognition becomes the object of a non-qualificative cognition, it is qualified by its object. In other words, when a non-qualificative cognition occurs just after the qualificative cognition of a pot, the cognition which becomes the object of the non-qualificative cognition is qualified by having a pot as its object, but cognitionhood which also becomes the object of the same non-qualificative cognition is not considered as a qualificand or a qualifier. Hence the non-qualificative cognition has two objects, viz., cognitonhood and the cognition of a pot. This cognition is non-qualificative with respect to cognitionhood, but with respect to cognition (or the cognition which has a pot as its object) it is qualificative. Hence the cognition (or the cognition of a pot) which is the object of this non-qualificative cognition is not qualified by cognitionhood. After having this type of non-qualificative cognition there will be a second order cognition of the non-qualificative cognition which is qualified by cognitionhood. In other words, the second order cognition is the

cognition of the cognition, which has the cognition of a pot as its object, and is qualified by cognitionhood.[21]

Now an objection can be raised against this solution in the following way: In this case the qualificand of the second order cognition is a non-qualificative cognition, but this is not possible. Since a non-qualificative cognition is not amenable to sense-experience (*atīndriya*), it cannot be an object of mental perception.

As an answer to this objection it is said that, although the qualificand of this second order cognition is non-qualificative, it is not non-qualificative in every respect. It is non-qualificative with respect to cognitionhood, but not with respect to the property of having a pot as its object (*ghaṭa-viṣayakatva*).[22] In other words, it is qualificative with respect to this property. Hence this cognition cannot be said to be not amenable to sense-experience if it is qualified by the property of having a pot as its object. Therefore, this cognition as being qualified by the property of having a pot as its object can be the qualificand of a second order cognition.

Against this solution it may be said that the object of the second order cognition is not the initial qualificative cognition (*vyavasāya*), but the non-qualificative cognition which has occurred just after the qualificative cognition. Hence it cannot be said to be the second order cognition of the initial qualificative cognition.

In reply it has been said that the non-qualificative cognition, which has occurred just after the qualificative cognition, may be taken as the second order cognition of the qualificative cognition. For, the cognition in question is non-qualificative with respect to cognitionhood, but qualificative with respect to the property of having a pot as its object. Hence this cognition (i.e., the non-qualificative cognition) reveals the initial qualificative cognition as being qualified by the property of having a pot as its object. Therefore, there is no harm in accepting this non-qualificative cognition as the second order cognition of the initial qualificative cognition.[23] Only one fact has not been revealed in the non-qualificative cognition. This fact is that the cognition which has the property of having a pot as its object has also cognitionhood. Hence, in order to reveal this fact, another cognition which occurs just after the non-qualificative cognition has been proposed.

Now let us discuss another objection raised against the non-self-revealing theory. It is said that if a cognition is revealed by some other cognition, then a person who has cognised a pot may doubt whether he has a cognition of a pot. But the person who has cognised a pot never doubts whether he has cognised a pot. On the contrary, the person who

has cognised a pot has certainty about his cognition of a pot. This is possible only if we admit that a cognition reveals itself. According to the self-revealing theory the conditions which are responsible for the occurrence of a cognition are also responsible for its revelation. Hence a cognition will be revealed or cognised as certain when it is produced. If a cognition is certain at the time of its occurrence and if there is no doubt about something which is certain, then there is no scope for doubt about this cognition. But according to the non-self-revealing theory, a cognition is never revealed at the time of its occurrence. It can be revealed only if certain other conditions for its revelation are present after its occurrence. But when the causal conditions for the second order cognition are not present after the occurrence of the cognition of a pot, the cognition of a pot cannot be revealed or considered as certain. Hence there is scope for doubt about the cognition of a pot after its occurrence if the conditions for the second order cognition are not present. Hence the above objection against the non-self-revealing theory that there is scope for doubt about the cognition of a pot after its occurrence cannot be refuted.

In reply the supporters of the mental perception theory claim that the above objection cannot be raised against their view. For, a doubt presupposes the cognition of a property-possessor (*dharmi*) which appears under the mode of a property-limitor, and it also presupposes the absence of certainty with respect to each of the alternative properties which are applied to the property-possessor. For example, after having seen from a distance the trunk of a tree which has the same height as a human being, one may express a doubt by the sentence 'Is this a human being or a pillar?' In this case the trunk of the tree is the property-possessor. Since the trunk of the tree appears as *this*, the property of being this becomes its property-limitor (*avacchedaka*). In other words, it is presented under the mode of the property of being this (*idantvadharmitāvacchedaka*). Two incompatible properties appear as qualifiers in a doubt, and each of them is called 'an alternative' ('*koṭi*'). In our above example, the alternatives are pillarhood and humanity. There would not have been this type of doubt, if the trunk of the tree had not been cognised under the mode of the property of being *this*. Again, there would not have been this type of doubt, had there been certainty about the presence of pillarhood or humanity in the object presented under the mode of the property of being *this*. Hence when there is no certainty about the presence of pillarhood or humanity due to distance or darkness which is a defect, but the trunk of the tree is cognised as this, then the above type of doubt would take place.

Now let us consider a doubt about the presence of a cognition such as 'Do I have the cognition of a pot or not?' In this doubt the self or the referent of 'I' is the property-possessor, and selfhood is the property-limitor. The cognition of a pot and the absence of the cognition of a pot are the two alternatives. This type of doubt can occur only if the self is known in the above way and there is no certainty about the presence of the cognition of a pot or about the absence of the cognition of a pot. But if the self is perceived just after the cognition of a pot, there will be certainty about the presence of the cognition of a pot in the self. For, if there is a perception of the self, then there is a contact between the internal sense-organ (*manas*) and the self, which is necessary for this perception. Again, if there is a contact between the internal sense-organ (*manas*) and the self, then the internal sense-organ (*manas*) is related to the cognition of a pot by the relation of contact-cum-converse of inherence. Thus the cognition will be related to the internal sense-organ.

Now an objection may be raised in the following way. It may be said that in the case of doubt such as 'Is this a human being or not?', the sense-organ will be related to the property-possessor for the cognition of it, and thereby the sense-organ will be related to humanity if it happens to be a human being. Hence there will be a cognition of humanity when the property-possessor is being cognised. Since there is certainty about the cognition of humanity in the property-possessor, there will not be any scope for doubt as it happened in the previous example of the self.

In reply it is said that the analogy does not hold good. In the latter example, humanity is an external entity, and with respect to the perceptual cognition of an external entity there might be various types of defects such as distance or certain inappropriate causal conditions such as insufficient light, insensitive sense-organ, etc., which are causes of invalid cognitions.[24] Therefore, if some of these defects or inappropriate causal conditions are present, there might not be a certain (or doubt free) cognition of humanity in the property-possessor. But in the case of a mental perception there is no scope for similar defects or inappropriate causal conditions. Hence during the mental perception of the self there will be a perception of the self qualified by the cognition of a pot. Since there will be certainty about the presence of the cognition of a pot in the property-possessor which is the self, there will not be any scope for doubt in this case.

The above discussion shows how the Nyaya-Vaiśeṣika philosophers have established the mental perception of a cognition or the higher

order cognitions. They have refuted the objections raised against their view, and put forward certain arguments in favour of their view. Various types of objection may be raised against these arguments as well. I hope the followers (or scholars) of each of the schools will look for arguments in favour of their respective views.

EXPLANATORY NOTES

[1] In this case the cognition of the probans is dependent upon the cognition of the probandum. According to the Nyāya philosophers *pakṣatā* is one of the causal conditions of an inferential cognition, and it is defined as a dubious cognition of the presence of the probandum (*sādhya-saṃśaya*) in the locus of inference. In other words, there is absence of certainty about the presence of the probandum in the locus of inference. In this context the author has mentioned a type of epistemic circularity which is to be distinguished from other types of circularity. This type of circularity is called '*siddha-sādhana-doṣa*' ('the fallacy of presupposing the cognition of the inferred entity'). The other three types of fallacies of a circularity are called '*ātmāśraya*,' '*anyonyāśraya*,' and '*cakraka*,' and they could be either epistemic or causal (i.e., objectual).

The *ātmāśraya* type of fallacy occurs when the cause of x is explained in terms of x, or the cognition of x presupposes the cognition of x.

The *anyonyāśraya* type of fallacy occurs when x is a causal condition of y, and y is a causal condition of x, or the cognition of x requires the cognition of y, and the cognition of y requires the cognition of x.

In the case of a *cakraka* fallacy more than two terms are involved. With three terms this fallacy would take the following form: x is due to y, y is due to z, and z is due to x, or the cognition of x presupposes the cognition of y, the cognition of y presupposes the cognition of z, and the cognition of z presupposes the cognition of x.

It is to be noted that the fallacy of *siddha-sādhana* is only epistemic, and it occurs only in the context of an inference. Hence it expresses the fault of the cogniser only.

[2] According to the Nyāya every relation is dyadic. The so-called higher order relations such as triadic are reducible to a set of dyadic relations. Hence each relation has only two terms, simple or complex.

[3] Her the author has introduced the technical terms '*kriya*' ('action') and '*karma*' ('object') as used by the Grammarians. An action, according to the Grammarians, is the meaning of a verbal root, and an 'object' is the locus of the result of an action. In other words, the object is that where the result of an action resides. Hence 'objecthood' or 'the property of being the object' ('*karmatva*') is to be defined as 'the property of being the locus of the result which is due to an action.' In other words, '*karmatva*' refers to the result of an action.

But in the Nyāya-Vaiśeṣika system *karma* is one of the seven categories. Since the word '*karma*' refers to different types of movements, such as throwing upwards, contraction, expansion, etc., it is usually translated as 'action.' It is considered one of the causal conditions of conjunction (*saṃyoga*) and separation (*vibhaga*) which are qualities in the Nyāya-Vaiśeṣika system. It has been defined in the following way:

> x is an action *Df* x is different from a conjunction, but x is similar-to-inherent cause (*asamavāyī-kāraṇa*) of a conjunction.

According to the Nyāya, an action involves four moments and has three successive effects. Each of the effects is produced at a moment. Moments are described in terms of an action or its effects which are imposed properties of moments. The first moment of an action is explained in terms of the origination of an action. It is the not-yet type of absence of separation which is due to an action. Hence an action qualified by the not-yet type of absence of separation is the imposed property (*upādhi*) of the first moment.

The second moment is the origination of separation due to the same action. Hence the action qualified by the separation and the previous conjunction becomes the imposed property of the second moment.

The third moment is the cessation of previous conjunction. Hence the same action qualified by the cessation of the previous conjunction and the not-yet type of absence of the next conjunction becomes the imposed property of the third moment.

The fourth moment is the origination of a new conjunction. Hence the same action qualified by a new conjunction becomes the imposed property of the fourth moment.

Among these four moments the first one is qualified by the not-yet type of absence of separation which is due to the action. Hence it is not qualified by its effects. But the remaining three moments are qualified by its effects. In this context it is to be noted that a moment has several imposed properties. It is described by the origination of an action, or by an effect of another action, or by the originations of several actions, or the effects of several actions. Moreover, since a moment is described in terms of an action, an action becomes an imposed property (*upādhi*) of time. Hence time is to be understood in terms of an action.

It may also be noted that according to the Nyāya, mental qualities such as cognition, desire, etc., are not actions. Hence the use of the word 'moment' in the context of mental qualities is to be explained in terms of an action. Therefore, the origination, or the duration, or the cessation of a mental quality such as cognition, is to be described by an action. Since every action is explained in the same way, any action can be used to determine the moments of a mental quality.

[4] Here the author has used the word '*prayojaka*' ('causative') which cannot be equated with '*kāraṇa*' ('cause'). The set which corresponds to '*kāraṇa*' is a proper subset of the set which corresponds to '*prayojaka*.' Hence a *kāraṇa* is also a *prayojaka*, but a *prayojaka* is not always a *kāraṇa*. The limitor of the property of being the cause is a *prayojaka*, but not a *kāraṇa*. For example, a stick is a causal condition for the production of a pot, but stickness is not a causal condition, although it is a *prayojaka* for the production of the pot. Similarly, the cognition of the rule of invariable concomitance is the special instrumental cause (*karaṇa*) of an inferential cognition (*anumiti*), but the rule of invariable concomitance (*vyāpti*) is a *prayojaka* of it. It is also an example of the limitor of the property of being the cause (*kāraṇatāvacchedaka*).

Moreover, the cause of a cause is a *prayojaka*. For example, the father of a pot-maker is a *prayojaka* of a pot, but not a cause of it. Similarly, when an agent caused another agent to perform an action, the former becomes a *prayojaka* of the action, but not a cause of it. For example, Rāma causes Devadatta to make a pot. Here Rāma is a *prayojaka*, but not a cause of the pot. Since there is a distinction between '*prayojaka*' and '*kāraṇa*,' the former may be translated as 'causative' and the latter as 'cause.'

[5] This discussion presupposes the Nyāya conception of number in general and the Nyāya explanation of numbers higher than one in particular.

A number, in the traditional Nyāya ontology, is a quality (*guṇa*) of a substance (*dravya*), and hence it resides in a substance by the relation of inherence. Moreover, every substance has its own number one. The number one of this table cannot be identified with the number one of that table as the colour red of this table cannot

be identified with the colour red of that table. Again, by virtue of being one a table is called 'one table' as by virtue of being red it is called 'a red table.' Hence a number is as objective as any other quality such as colour or shape.

The number one of a substance is either eternal or non-eternal depending on whether the substance is eternal or non-eternal. Hence the number one of an eternal substance such as an earth atom is eternal, and the number one of a non-eternal substance such as this table is non-eternal. The number one of an eternal substance has neither origin nor destruction. But the number one of a non-eternal substance has both origin and destruction. For example, the number one of this table did not exist prior to this table, and it will not exist once the table ceases to exist. As regards causal conditions, this table is the inherent cause (*samavāyī-kāraṇa*) of its number one since it inheres in this table. The number one of a part of this table is its similar-to-inherent cause (*asamavāyī-kāraṇa*) as it inheres in the part of this table. All other causal conditions such as space, time, etc., are its instrumental causes.

But the numbers beginning with two are all non-eternal and caused by certain cognitions, although they reside in the substances which are independent of the knowing minds. Hence the origin of these numbers presupposes objects or substances and cognitions of those objects. Let us consider number two. The number two of a table and a chair is not the same as the number two of a book and a pen. Hence each pair class will have its own number two. The inherent cause of the number two of the former class (i.e., the table and the chair) would be the table and the chair. But the similar-to-inherent cause would be the number one of the table and the number one of the chair. In addition to these causal conditions the cognition of the table as this is one and of the chair as this is one would be an instrumental cause of this number two. Hence this cognition is a conjunctive cognition of the number ones which reside in those two objects. It may, therefore, be called 'the mental process of counting.' Similarly, the number two of the book and the pen will depend on the mental process of counting.

According to the Nyāya these numbers will exist so long as their respective instrumental causes i.e., conjunctive cognitions will continue to exist. Hence the cessation of the conjunctive cognition of the table and the chair will lead to the cessation of the number two which resides in them. In favour of a conjunctive cognition being an instrumental cause, the Nyāya has suggested the following argument.

If the numbers are not caused by any cognition of counting and revealed to us like the colour or the shape of an object, then we can cognise a large number, such as fifty, after looking at fifty objects without the process of counting. But this is contrary to our experience. When we look at this collection of fifty objects, we do not cognise the number fifty as we cognise their colours. For this reason the numbers beginning with two are dependent on the mental process of counting which is a type of conjunctive cognition (*apekṣā-buddhi*).

According to the Nyāya a cognition in general lasts for two moments. But in order to explain the perception of a number greater than one the Nyāya claims that a conjunctive cognition lasts for three moments. The following moments are involved in our cognition of a number greater than one such as two. The first moment is the origination of the conjunctive cognition having the form 'this is one, that is one.' The second moment is the origination of the number two in those objects. The third moment is the non-qualificative cognition (*nirvikalpaka-jñāna*) of the universal twoness. The fourth moment is the perception of the objects qualified by the particular number two. At this moment the conjunctive cognition ceases to exist. The fifth moment is the cessation of the number two.

If a conjunctive cognition also last for two moments like any other cognition, then it will cease to exist at the third moment and thereby the number two which is dependent on it will cease to exist at the fourth moment. If it were so, then at the fourth moment the perception of the number two which qualifies those objects

would not be possible as the number two ceases to exist at this moment. In order to avoid this problem the Nyāya postulates the continuation of this type of conjunctive cognition for three moments.

As the perception of two presupposes the conjunctive cognition of this is one and that is another, so the cognition of three presupposes the conjunctive cognition of these are two and this is one. Hence the general rule is this: The cognition of n, where n is greater than one, presupposes the conjunctive cognition of n-1 and one. Hence the cognition of fifty presupposes the conjunctive cognition of the form 'these are forty-nine, that is one.'

In this context it is to be noted that the Nyāya theory of number cannot be equated with logicism, intuitionism, or formalism. It cannot be identified with logicism because the numbers greater than one are not discovered by us or independent of the knowing mind, or reducible to sets. Since the numbers, according to the Nyāya, are not mental concepts, but qualities of objects, the Nyāya view cannot be equated with intuitionism which claims that they are constructed objects or concepts. Again, the Nyāya view cannot be equated with formalism as numbers are real qualities of objects or substances.

In order to explain the distinction between the meanings of the word 'two' which has occurred in the sentences 'This object is not two, but it is a locus of two,' and 'These are two objects,' the Nyāya introduces two types of relation for relating the number two to its loci. In the former sentence the second occurrence of 'two' refers to a quality which is related to its locus by the relation of inference, but in the latter sentence 'two' refers to a property which is related to the collection by the relation of *paryāpti* which is a type of self-linking (*svarūpa*) relation. Since a self-linking relation is not ontologically a distinct relation over and above its terms, it is to be identified either with the first term or with the second term. However, in general, it is identified with the first term. Since each number two is a particular one, there would be as many particular twos as there are collections of two objects. If we have three objects, say a, b, c, in our universe of discourse, then there would be three pair classes, viz., $\{a, b\}$, $\{a, c\}$, $\{b, c\}$.

Moreover, since a number greater than one is dependent on the mental process of counting, there would be as many twos for each of the collections as there are mental processes of counting. For example, if there are four mental processes of counting for each of the collections, then there would be four number twos for each of the pair classes. Each of the twos will be related to the collection by the relation of *paryāpti*, but each of them will be related to the members of the collection by the relation of inherence. The existence of each of the twos will depend on the mental process of counting which is a type of conjunctive cognition, or on the inherent cause of it.

Now it may be asked why a number, once created, will depend on the mental process of counting. If it is a quality of an object, why should we not consider it as independent of the mental process of counting which is an instrumental cause of it?

As an answer to this question the Nyāya claims that a number, in this respect, is not like any other qualities such as a colour. The colour of the house presupposes a painter, brush, paint, etc., as its causal conditions. Once the house is being painted, the colour does not depend on the brush or the paint for its existence, because it can be perceived by any other individual. Anyone who has a visual contact with the house will perceive its colour. If numbers were like the colour of the house, then anyone who has a visual contact with a collection will perceive its number without counting. But this does not happen with respect to every collection, especially with respect to a large collection. For example, John has counted a collection which contains fifty-five objects and another collection which contains fifty-six objects. If these numbers continue to exist independent of further counting, then Tom, after

looking at these two collections, will be able to perceive their respective numbers as he perceives the colours of two houses. Since he cannot perceive the numbers of these collections without counting, the Nyāya claims that numbers are not independent of counting, and there would be as many particular numbers as there are countings. Hence if there are three countings of fifty, there would be three particular number fifties. But all the particular fifties have the universal fifty-ness in common.

Another objection may be raised against the Nyāya concept of number. It may be said that the process of counting simply produces the cognition of a number, it does not produce a number in the objects. Hence the effect of the process of counting is not a number, but the cognition of a number. In reply the Nyāya claims that the postulation of a number as an effect is simpler than the postulation of the cognition of a number as an effect. Hence the Nyāya view is justifiable on the ground of simplicity.

Now the question is whether there is any need for two types of relation such that one type of relation relates a particular number to a collection (or the objects *taken together*), while the other type of relation relates the same number to each of the members of the collection. In the former case a number becomes a property of the collection, and in the latter case it becomes a quality of the members of the collection. The Nyāya reply to the question is in terms of certain epistemic consideration.

Let us consider the following cognitions:

X knows a which is a member of the set $\{a, b\}$.

Y knows a which is a member of the set $\{a, c\}$.

Both X and Y know the same a, but their cognitions about the same a cannot be said to be identical. In other words, there is some difference in their contents. The way a is presented to X is not the same as the way a is presented to Y. X knows a as something which is a member of a set to which b belongs, and Y knows the same a as something which is a member of set to which c belongs. Now the question is how to explain this difference in the cognitive values of X and Y. The Nyāya reply is that the number two of the set $\{a, b\}$ is not the same as the number two of the set $\{a, c\}$, and the number two of the former set qualifies a as well as b and the number two of the latter set qualifies a as well as c. In other words, the number two of the former set is related to the set by one type of relation and to its members by another type of relation. Similar is the case with the latter set. For this reason X's cognition of a cannot be said to be the same as Y's cognition of the same a. Hence, according to the Nyāya, being a member of a set becomes a quality of its members, and this quality cannot be reduced to a set. If the set theory is used to reduce properties to sets or sets of sets and so on, then being a member of a set, which is a type of property in the Nyāya system, cannot be reduced to another set. The Nyāya concept of number as a quality of the members of a set may be used to explain what is called 'being a member of a set.' Hence the Nyāya theory can explain certain cognitive differences which cannot be explained in terms of set theory.

From this discussion it follows that a number greater than one is related to the collection by a *paryāpti* relation which is a type of self-linking (*svarūpa*) relation, and it is also related to its members by the relation of inherence in the ontology of the Nyāya. Now the question is whether a particular number one which is a quality of a substance is also related to the substance by a *paryāpti* relation. On this point the Navya-Nyāya philosophers such as Raghunātha Śiromaṇi claim that the cognition of *This is one pot* cannot be explained adequately unless we admit that the particular number one is related to the pot by a *paryāpti* relation in addition to the relation of inherence. As the universal potness is present in the entire pot, not in any of its

parts, or the universal humanity is present in the entire being of a person, not in his/her parts, so the number one qualifies every object, animate or inaminate, in its entirety. Hence it is related by a *paryāpti* relation as well.

In addition to these two types of relation which explain the use of the word 'one' in sentences such as 'This is a locus of one,' 'This is one pot,' the Nyāya introduces another use of 'one' in sentences such as 'One person is eating at home.' If the sentence 'One person is eating at home' means 'A person qualified by being one (*ekatva*) is eating at home,' then the former sentence would be true even if several persons are eating at home, because each of them is qualified by a particular number one. Hence the Nyāya claims that this use of 'one' cannot be explained in terms of being one (*ekatva*). In this context the word 'one' means "only one.' The Nyāya explains the meaning of the word 'only one' in terms of having an absence or a negative property. Hence the meaning of the sentence 'one person is eating at home' can be explained in terms of the following conjunctive sentence.

A person is eating at home, and he/she has the absence of other persons qualified by the property of eating at home by the relation of having the same locus (*sāmānādhikaraṇya-sambandha*).

This conjunctive sentence may be expressed in the following way:

1) $(\exists x)$ (x whose property of being the object is limited by humanity has the property of eating at home, and (y) (If $x \neq y$ and y whose property of being the object is limited by humanity has the property of eating at home, then x has the absence of y by the relation of having the same locus)). 1) may be expressed in the following way:
2) $(\exists x)$ (x who is F has G. (y) (($y \neq x$. y who is F has G) $\supset$ ((absence of y by the relation R)x))), where 'F' stands for 'a person', 'G' for 'the property of eating at home', 'R' for 'having the same locus'.

Hence the form of 2) may be expressed by

3) $(\exists x)$ ($\varnothing$ x. (y) (($y \neq x$.$\varnothing$ y) $\supset$ ((absence of y by the relation R)x)))

The Nyāya explains the meaning of 'only one' in terms of having a negative property. In the above example, the negative property resides in the locus of the person who is eating at home and thereby characterises the person who is eating at home by the relation of having the same locus.

It may be noted that 3) is similar to Russell's analysis of definite description, which has the following form.

4) $(\exists x)$ (Hx . (y) ($Hy \cdot\supset x = y$)), where 'H' stands for 'a person who is eating at home.'

In spite of some similarities with Russell's analysis, there is one important difference. They Nyāya philosophers, unlike Russell or many contemporary logicians, do not assert an identity between an existent object which satisfies a property and an object which is supposed to satisfy the property.

From this discussion it follows that the word 'one' can be used in three senses. (a) When *being one* (*ekatva*) is related to its locus by the relation of inherence, it is considered a quality of its locus. (b) When *being one* (*ekatva*) is related to the same object by a *paryāpti* relation, it is considered as its property. In this sense, an object may be identified with a unit class. (c) Again, the word 'one' may be used in the sense of 'only one.' In this sense, it is not a number, but a complex imposed property (*sakhaṇḍa upādhi*). Hence the universal oneness (*ekatvatva*) does not inhere in this complex imposed property.

As 'one' can be used in the sense of 'only one' so are the other numbers. Hence when we say 'two persons are eating in this house,' we may mean 'only two persons are eating in this house.' This sentence may be expressed in the following way:

5) $(\exists x)\ (\exists y)$ (x is a person and eating in this house. y is a person and eating in this house. $(z)\ (((z \neq x\ .\ z \neq y)\ .\ z$ is a person and eating in this house) $\supset$ ((absence of z by the relation R)x. (absence of z by the relation R)y))).

This is also similar to the symbolic counterpart of contemporary logicians. Here also the identity has not been asserted between an existent object which satisfies the property and an object which is supposed to satisfy this property. The Nyaya philosophers have assigned negative property to an existent object or existent objects, and the word 'only' represents this negative property.

From the above discussion it also follows that the numbers greater than one can be used in three senses. Hence a number greater than one is related to the collection by a *paryāpti* relation, it is related to each of the members of the collection by the relation of inherence, and an expression for this number can be used in the sense of 'only.' When it is used in the sense of 'only,' it signifies a complex imposed property which is a real property. Hence unreality does not enter anywhere in the Nyāya analysis of number or the use of the word 'only.'

6 If we can show that an inference contains an *upādhi*, then we can demonstrate that it suffers from *vyabhicāra* fallacy, i.e., the probans is present, but the probandum is absent. This method is used especially in those cases where we cannot directly demonstrate the presence of the probans in a locus which is characterised by the absence of the probandum. For example, a red hot iron ball has smoke, because of fire.

In this inference the locus is any red hot iron ball, the probans is fire, and the probandum is smoke. Since every red hot iron ball is the locus, there is doubt about the presence of the probandum in every red hot iron ball. Hence the absence of the probandum is not known in any red hot iron ball. Hence in such cases the fallacy of *vyabhicāra* is demonstrated by introducing an *upadhi*. An *upadhi* may be defined in the following way:

> z is an *upādhi* iff z is a pervader of the probandum, but not a pervader of the probans.

If something is a pervader of the probandum, then it is also a pervader of the probans. But if it does not pervade the probans, then the probans deviates from it. Form this it will follow that the probans deviates from the probandum. Hence the probans is called '*vyabhicārī*' and the inference suffers from the fallacy of *vyabhicāra*.

It is a valid rule that if x is pervaded by y and y is pervaded by z, then x is pervaded by z. But if z pervades y and x is not pervaded by z, then x is not pervaded by y. From this it follows that z is an *upādhi*, and x is not a genuine probans (*asad-hetu*). Hence it is a method of proving the falsity of the premise 'If there is x, then there is y' in the following inference:

1. If there is x, then there is y
2. If there is y, then there is z

∴3. If there is x, then there is z

If z is an *upādhi*, then the premise (2) is true, but the conclusion is false. From this it will follow that the premise (1) is false. Formally it may be presented in the following way:

1. $((p \supset q) \cdot (q \supset r)) \supset (p \supset r)$
2. $(q \supset r)$
3. $\sim (p \supset r)$

∴4. $\sim (p \supset q)$

[7] This argument may be presented in the following way if a is the cognition of a pot, F is the property of being the cognition of a pot, G is the property of being the ultimate cause of the property residing in the object of a cognition, and H is the property of being the conjunctive cognition of ones:

1. If a is F, then a is G
2. If a is G, then a is H
3. Therefore, if a is F, then a is H

It has been shown that the second premise is true, but the conclusion is false. From this it follows that the first premise is false. Hence H is an *upādhi*.

[8] In this inference the locus is the cognition of a pot, the probans is the property of being the cognition of a pot, and the probandum is the property of being the ultimate cause of the property residing in the pot. It is to be remembered that the supporters of this inference claim that a cognition is to be inferred from the property of being cognised (*jñātatā*) which resides in the object of a cognition. But the property of being cognised which resides in the object is a part of the probandum. Hence the cognition of the probandum presupposes the cognition of the property of being cognised.

The inferential cognition (*anumiti*) of the inference is: The cognition of a pot has the property of being the ultimate cause of the property residing in the pot. The inferential cognition will establish the property of being cognised in the pot by establishing the probandum in the locus of the inference. Hence the proof of the probandum will establish the property of being cognised in the object of a cognition.

It may also be noted that the cognition of the probandum is presupposed by the inferential cognition. But, in this case, the probandum cannot be known unless there is the inferential cognition. For this reason there is an epistemic circularity between the probandum (*sādhya*) and the inferential cognition (*anumiti*).

[9] It is to be remembered that there are three types of *petitio principii* in the Nyāya system. Each of them is either epistemic or ontological. The fallacy of *petitio principii* which occurs here is called '*anyonyāśrya*' ('the locus of each other') as the cognition of the probandum depends upon the inferential cognition and *vice versa*. Hence it is a type of epistemic fallacy.

[10] Since the word '*manas*' is a technical term, it requires some explanation. According to the Nyāya there are five external sense-organs, namely, eyes, ears, nose, tongue, and touch. Each of them is capable of receiving (or perceiving) certain types of objects. For example, colour, shape, size, etc. are sensed or perceived through the eyes. Similarly, different types of odour are experienced through the nose (or olfactory sense-organ), different types of sound through the ears (or auditory sense-organs), different types of tastes or flavours through the tongue (or the gustatory sense-organ); heat and cold, hardness and softness, etc., through skin (or the tactual sense-organ). According to the Nyaya both substances and actions can be perceived through the visual and tactual sense-organs.

In addition to the five external sense-organs the Nyāya has accepted an internal sense-organ called '*manas*.' *Manas*, in the Nyāya system, plays a dual role. In its role as a mental entity (*manastva*) it is a cause, though not the chief instrumental cause (*karaṇa*), of any cognition or any mental state. But in its role as a sense-organ (*indriya*) it is the chief instrumental cause (*karaṇa*) of mental perception of mental entities, such as cognition, desire, etc. In the case of mental perception also it is a cause as a mental entity (*manastva*), although not the chief instrumental cause (*karaṇa*). Hence *manas* as a mental entity is a cause of external perception, internal perception, inferential cognition, analogical cognition, and verbal cognition, but as a sense-organ it is the chief instrumental cause of internal perception only.

According to the Nyāya, any perceptual cognition, internal or external, is caused by a sense-organ which is considered its chief instrumental cause (*karaṇa*). Hence sense-organness (*indriyatva*) which resides in all the six sense-organs becomes the limitor of the property of being the cause (*kāraṇatāvacchedaka*) of any perceptual cognition.

In terms of the dual role of the *manas* the Nyāya is trying to show the distinction between different types of cognition. In the case of a visual perception of a pot, the visual sense-organ is the chief instrumental cause (*karaṇa*) and *manas* as mental entity (*manastva*) is simply a cause (*kāraṇa*). Similarly, in the case of any other type of cognition of the same pot, such as inferential or verbal, *manas* as a mental entity is simply a cause (*kāraṇa*). Since mental perception is a type of perception, *manas* plays both the roles. As a sense-organ it is the chief instrumental cause (*karana*) and as a mental entity it is a cause (*kāraṇa*).

[11] In this context it is to be noted that a cognition and its apprehension (*anubhūti*) do not occur at the same moment, although both of them can be present when we cognise or apprehend a cognition. Similarly, a mental state or event, such as happiness, cannot be equated with its apprehension, and both of them do not take place at the same moment. But a mental state can be present when we apprehend it.

[12] It has been accepted by almost all philosophers that a mental state, such as cognition or feeling, does not last for ever or for a long time. Now the question is, how long does it last? The Nyāya view is that a cognition *in general* lasts for two moments. The Nyāya philosophers have also addressed the question: If a cognition lasts for more than two moments, then what would be the argument in favour of it? If it is said that a cognition is destroyed after, say four moments, then we have to answer the question why it is not destroyed after more than four moments. Moreover, we have to answer the question about the cause of its cessation.

In order to answer these questions the Nyāya claims that we should postulate the existence of a cognition as long as it is needed for our explanation. Since there is no need to postulate the existence of mental states *in general* for more than two moments, on the ground of simplicity it is claimed that mental states last for two moments. The first moment is the moment of its origination and the second moment is the moment of its duration. During the second moment another mental state such as cognition or feeling occurs, and the former is destroyed by the latter. Hence a mental state is destroyed by another at the third moment after its origination.

Moreover, according to the Nyāya, two or more mental states do not occur at the same time. Since a *specific* relation of conjunction between *manas* which is atomic in nature and the self is a cause of a mental state, two or more mental states cannot be produced simultaneously. Hence only one mental state occurs at a particular moment. Form this it follows that during the moment of duration of a mental state only one mental state is produced. Hence a mental state is destroyed by one and only one mental state which occurs right after the former.

[13] According to the Nyāya a cognition is related to its object by the relation of the property of being the object. Hence the object is related to the cognition by the converse of the property of being the object. Similarly, a cognition is related to the self by the relation of inherence and the self is related to the cognition by the converse of the relation of inherence. The Nyāya emphasises indirect relations which relate many apparently unrelated objects. Hence if a is related to b by R and b is related to c by S, then a is related to c by R/S. If 'R' stands for a conjunction relation, 'S' for the inherence relation and 'T' for the property of being the object relation, then *manas* (internal sense-organ) is related to the self by R, it is related to the cognition by $R/\check{S}$, and it is related to the object by $R/\check{S}/T$.

[14] In this context it is to be noted that the objects are not the same. If the objects of an inferential cognition are the same as the objects of a mental perception, then the

causal conditions of the mental perception are stronger than the causal conditions of the inferential cognition. Similarly, if the objects of a verbal or analogical cognition are the same as the objects of a mental perception, then the causal conditions of the latter are stronger than the causal conditions of the former. For this reason a mental perception will occur instead of any other type of cognition if they have the same objects. Similarly, with respect to an external or ordinary perception, the causal conditions of it are stronger than those of any other type of cognition.

[15] Here 'the cognition of a word' or 'cognised word' refers to an auditory perception of a word in the case of uttered sentences or to a visual perception of it in the case of written sentences. Hence 'the cognition of a word' does not mean 'the cognition of the relation of a word to its referent' or 'the cognition of its referent.'

Understanding the meaning of a sentence or complex expression presupposes the cognition of the relation of a word to its referent. After having cognised the words of a sentence we remember the referents of those words, because of the rule that the cognition of one of the relata of a relation, which is already known to us, gives rise to the memory-cognition of the other relatum. Since the cognition of the relation between a word and its referent is a presupposition for understanding the meaning of a sentence, we remember the referent of a word after cognising it.

According to the Nyāya the meaning of a sentence, as distinct from the meanings of its parts, lies in the relation between the referents of its parts which are sets of expressions. Hence cognising the meaning of a sentence lies in cognising this relation. The chief instrumental cause (*karaṇa*) of understanding the meaning of a sentence is the cognition of the words contained in it, and the operation (*vyāpāra*) is the memory-cognition of the referents of the words.

[16] It is to be remembered that according to the Nyāya a cognition lasts for two moments. Hence the continuity of a perception is explained in terms of the occurrence of a series of cognitions of the same sort. If a visual cognition, say a, occurs at t_1, then another visual cognition, say b, will occur at t_2. At t_3 the former will be destroyed by the latter. Hence a will last for two moments only. If one thing is destroyed by another then both must be present at some time. In this case both a and b are present at t_2. This is how the Nyāya explains the occurrence of a continuous perception of an object.

[17] This passage also requires some explanation as two epistemologically important remarks have been made in this context:

a. It is claimed that one of the causal conditions of a qualificative (or relational) cognition is the cognition of its qualifier.
b. It is also claimed that the possibility of a qualificative cognition cannot be explained without postulating non-qualificative cognition.

Let us consider the qualificative cognition of a pot, which is atomic. In this cognition there are three ontologically distinct elements, viz., a particular pot which is a substance in the Nyāya ontology, potness which is a universal or class-character (*jāti*), and the relation of inherence which relates the latter to the former. Now it is claimed that the cognition of potness is a cause of the cognition of a pot qualified by potness. But the cognition of the relation of inherence which relates potness to a pot is not a causal condition of it. If the relation is also considered a causal condition, then there would be an infinite regress. For the cognition of the relation would involve the cognition of its two terms (or relata). Hence both the terms would also be causal conditions. Therefore, all the three elements, viz., a pot, potness, and the relation of inherence, would be causal conditions of this qualificative cognition. Since the relation is cognised along with its terms, the cause of the cognition of a pot qualified by potness would be the cognition of a pot qualified by potness. Similarly, the cause of the latter cognition would be another cognition of a pot qualified by

potness, and so on. In order to stop this regress the Nyāya claims that the cognition of a relation is not a causal condition of a qualificative cognition.

Now it may be asked whether the cognition of a pot is a cause of the qualificative cognition of a pot qualified by potness. In reply the Nyāya philosophers claim that the cognition of a pot which is the qualificand in this qualificative cognition is not a cause of it. If it is also treated as a cause, then the inferential cognition from an operation (*parāmarśa*), which does not contain the probandum (*aprasiddha*), would not be possible. Here the technical term '*aprasiddha*' does not mean 'unexampled' or 'empty.' Here it simply means that the probandum is not the object in this operation. Hence the probandum is not known immediately prior to the inferential cognition. In this inference the probandum is an absence and the operation is an agreement in absence type (*vyatirekī-parāmarśa*). In an usual agreement in absence type of invariable concomitance the absence of the probandum occurs. Hence the absence of the probandum occurs in the operation as well. For example, if 'not *G*' is the probandum, then 'not not *G*' occurs in this type of invariable concomitance. But in this case the absence of the probandum would not occur in the invariable concomitance or in the operation. Hence the operation also would not take the usual form. Let us consider the following example:

> The Lake has an absence of smoke, because of the absence of fire.

The agreement in absence type of invariable concomitance would be as follows:

> Wherever there is smoke, there is absence of the absence of fire.

Here the absence of the absence of smoke has not occurred in the rule of invariable concomitance, although both 'smoke' and 'the absence of absence of smoke' refer to the same thing. Here 'smokeness' is the limitor of the property of being the pervaded (*vyāpyatāvacchedaka*). Hence the invariable concomitance would generate the cognition of smoke, not the cognition of the absence of the absence of smoke. If the property of being the absence of the absence of smoke (*dhūmābhāvābhāvatva*) were the limitor, then the cognition of the absence of the absence of smoke would have been generated. For this reason there would not be any cognition of the probandum, namely, the absence of smoke.

The operation would be:

> The lake is qualified by the absence of fire which is the counterpositive of the absence of the absence of fire which is the pervader of smoke.

It has the form:

> a is $\sim G$ which is the counterpositive of $\sim\sim G$ which is the pervader of F.

In this operation the absence of smoke which is the probandum has not occurred. For this reason it is called '*aprasiddha sādhyaka parāmarśa*' ('the operation in which the probandum has not occurred'). As regards the inferential cognition, there are two alternatives, namely, (a) The lake has the absence of smoke. (b) The absence of smoke characterises the lake.

Since the absence of smoke has not occurred in the operation, the inferential cognition cannot be (a). This is due to the fact that the cognition of the qualifier (*viśeṣaṇa*) is a cause of qualificative cognition (*viśiṣṭa-jñāna*). If it is claimed that the cognition of the qualificand is also a cause of qualificative cognition, then (b) also becomes impossible as the probandum has not occurred in the operation. Hence the possibility of any inferential cognition will be ruled out. But the Nyāya philosophers

claim that inferential cognitions from this type of operations do occur. Hence if we accept the view that the cognition of the qualificand is not a cause of the qualificative cognition, then the inferential cognition in the above example would be (b), not (a). Thereby we do not contradict the view that the cognition of the qualifier is a cause of a qualificative cognition.

Now it may be asked, why should we accept the thesis that the cognition of the qualifier is a cause of qualificative cognition?

On this point the Nyāya claims that the cognition of the absence of something presupposes the cognition of the negatum, and the latter is a cause of the former. In other words, the cognition of *F* is a cause of the cognition of not *F*. Moreover, since this view has been accepted by other schools of Indian Philosophy, it remains a non-controversial thesis.

Now the question is whether in all other cases also this rule holds good. Hence we can ask the question whether the cognition of potness is a cause of the cognition of a pot qualified by potness. On this point there is a disagreement among the schools of Indian philosophy. Some of the schools, such as Mīmāṃsā, do not subscribe to the view that the cognition of the qualifier is a cause of a qualificative cognition. But the Nyāya philosophers subscribe to this view. Hence those who are not committed to either of these views will have doubt about this thesis. Since all the schools of Indian philosophy have accepted the cognition of the qualifier as a cause of the cognition of an absence, it may be inferred that in other cases as well the cognition of the qualifier is a cause of a cognition of a qualified object. Hence the cognition of potness may be considered as a cause of the cognition of a pot qualified by potness. But the cognition of potness, which is not a qualified object, is non-qualificative (*nirvikalpaka*) in nature.

Now the question is whether the perceptual cognition of a pot qualified by potness in the relation of inherence presupposes the cognition of potness *only*.

On this point the Nyāya philosophers claim that the perceptual cognition of a relation presupposes the cognition of its relata. Hence the perceptual cognition of a pot qualified by potness in the relation of inherence presupposes the cognition of both a pot and potness. But they are cognised in a non-qualificative perceptual cognition.

Now it may be asked whether the relation of inherence as such, not as relating one entity to another, can be an object of a non-qualificative perception in addition to a pot and potness.

The Navya-Nyāya philosophers claim that if the relation of inherence is also an object of non-qualificative perception, then, like potness, it would also be a qualifier of the qualificative cognition which follows the non-qualificative cognition. Since the relation is not a qualifier in this qualificative cognition, there is no reason to postulate it as an object of a non-qualificative cognition.

As regards a pot, the Navya-Nyāya philosophers claim that it is not a qualifier, although it is an object of a non-qualificative cognition. This is due to the fact that whenever it is a qualifier, it is qualified by a property. In other words, it appears under the mode of some presentation when it is a qualifier in a qualificative cognition. Hence a pot as such is an object of non-qualificative cognition, but is not a qualifier in a qualificative cognition.

Since the non-qualificative cognition appears in the subsequent arguments of the author, let us enumerate some of the distinctive features of it.

(a) First of all, only the qualificand and the qualifier of an atomic qualificative cognition are cognised in a non-qualificative perceptual cognition, but not as a qualificand or as a qualifier. Hence they are cognised as such. The relation between the qualificand and the qualifier is not cognised in a non-qualificative cognition.

(b) Since there is no cognition or mental perception of a non-qualificative cognition, it is to be established by an inference. Since a qualificative cognition presupposes the cognition of the ultimate qualificand and the qualifier, we postulate or infer the non-qualificative cognition in which these elements are cognised. Hence, in the case of the cognition of a pot qualified by potness, we infer the non-qualificative cognition of both the pot and potness as such.

(c) A non-qualificative cognition of an entity is not directly a cause for the use of it. Only a qualificative cognition of it is considered a cause for its use. A qualificative cognition of a pot qualified by potness is a cause for the use of a pot, but indirectly the non-qualificative cognition of a pot and potness is related to the use of it. Hence it may be considered as an *indirect* cause for the use of an object.

(d) The objects of a non-qualificative cognition cannot be cognised by expressions. In other words, a non-qualificative cognition cannot be generated by an expression. For example, the expression 'a pot' or simply 'pot' will not generate a cognition of a pot which is not qualified by a property. Similarly, the word 'potness' will not generate simply the cognition of potness. According to the Nyaya philosophers the word 'pot' will generate the cognition of a pot presented under the mode of potness. Similarly, the word 'potness' will generate the cognition of potness presented under the mode of the property of being present in each and every pot and not in anything but a pot. In other words, it is something which is present in pots and pots only. Hence the cognition generated by an expression will not be the same as a non-qualificative cognition. This is due to the fact that the former will contain a qualificand-qualifier relation, but not the latter.

From the fact that a non-qualificative cognition cannot be generated by an expression, one should not conclude that the objects of a non-qualificative cognition are not nameable. Since everything is nameable in the Nyaya system, the objects of a non-qualificative cognition are also nameable, but they cannot be named when the non-qualificative cognition occurs. Since the existence of a non-qualificative cognition is established by an inference, its objects can be named when it is being established. But the cognitions generated by those names will not be non-qualificative.

(e) As regards the validity (*pramātva*) or the truth of a non-qualificative cognition, the Navya-Nyāya philosophers claim that it is neither valid nor invalid. This is due to the fact that both valid and invalid cognitions presuppose qualificand-qualifier relations. Since there is no qualificand-qualifier relation in a non-qualificative cognition, it is outside the scope of both validity and invalidity.

(f) A non-qualificative cognition is always perceptual. It cannot be inferential, analogical, or verbal. Since it is a cause of our perceptual qualificative cognition, it is always immediately prior to a perceptual qualificative cognition. When an external sense-organ is related to its objects, the initial cognition which is due to this contact is non-qualificative. Thereafter a qualificative cognition is generated.

(g) As regards the relation of a non-qualificative cognition to its object, the Nyaya claims that it cannot be any of the relations present in a qualificative cognition. Since relations such as the property of being the qualificand (*viśeṣyatā*), the property of being the qualifier (*viśeṣaṇatā*), and the property of being the relation (*saṃsargatā*) are present in a qualificative cognition, none of them can hold good in a non-qualificative cognition. Hence we can simply say the relation of a non-qualificative cognition to its object is different from those which are present in a qualificative cognition.

(h) Since a non-qualificative cognition has been postulated to give an account of a qualificative cognition and since it is an inferred entity, it cannot be perceived by the internal sense-organ (*manas*). Hence it cannot be introspected. From this it does not follow that it is not perceptual. Since it has been postulated to

give an account of a qualificative perceptual cognition, it is also considered as perceptual in character, not inferential, analogical, or verbal. It is analogous to the apprehension of sense-data in contemporary epistemology, which is postulated to give an account of the perception of a physical object. A comparison between the non-qualificative cognition of the Nyāya and the apprehension of sense-data might throw some further light on both the theories. But it is outside the scope of this explanatory note.

[18] Let us consider a as the first (or primary) qualificative cognition, F as cognitionhood, o as object, a_o as the object of a, b as another qualificative cognition, b_o as the object of b, c as self, and $t_1 \ldots t_n$ as moments of time.

The view of Udayana may be presented in the following way:

(1) a occurs at t_1
(2) The non-qualificative cognition of a and F occurs at t_2
(3) b occurs at t_3, and $a_o = b_o$
(4) The cognition of b qualified by F occurs at t_4
(5) The cognition of c qualified by b which is qualified by F occurs at t_5

Hence the object of the non-qualificative cognition is the first (or primary) qualificative cognition, but the object of the second order cognition is another qualificative cognition, the object of which is the same as the object of the first qualificative cognition. One of the instrumental causes of (5) is (4). The reference to the self occurs in (5), not in (4). Hence (5) is the second order cognition.

[19] According to Udayana the qualificand of a perceptual cognition is present at the time of the occurrence of the perceptual cognition. The argument in favour of Udayana might be that a perception not only reveals its object i.e., the qualificand, but also the property of being present (*vartamānakālinatva*) which qualifies the object of perception. Hence the qualificand of a perception is present when the perception takes place. But Vardhamāna does not subscribe to this view. He thinks that the qualificand of a perceptual cognition is just a cause of it. Since there is no need for a cause to be present at the time of the occurrence of the effect, there is no need for the qualificand to be present when the perceptual cognition occurs.

[20] Let a be the first (or primary) qualificative cognition, b the self, F cognitionhood, and $t_1 \ldots t_n$ moments of time. The view of Vardhamāna may be represented in the following way:

(1) a occurs at t_1
(2) The non-qualificative perception of a and F occurs at t_2
(3) The perception of a qualified by F occurs at t_3
(4) The cognition of b qualified by a, which is qualified by F, occurs at t_4

Hence the second order cognition takes place at t_4.

[21] Let a be the cognition of a pot, b the non-qualificative cognition, F cognitionhood, and $t_1 \ldots t_n$ moments of time. The second view of Vardhamāna may be represented in the following way:

(1) a occurs at t_1
(2) b, which has both a and F as objects, occurs at t_2
(3) The cognition of b qualified by F occurs at t_3

It may be noted that b is not fully non-qualificative. It is non-qualificative with respect to F, but qualificative with respect to a.

[22] In this context it is to be noted that in the second order cognition the qualificand is the non-qualificative cognition, which is qualified by the property of having a pot as its object. One of the objects of this non-qualificative cognition is the initial qualificative cognition which has a pot as its object. Now the question is, how can

this non-qualificative cognition be qualified by the property of having a pot as its object?

On this point, Vardhamāna claims that if x is the object of the cognition, say a, and a is the object of the cognition, say b, then x is the object of the cognition b. Hence if a has the property of having x as its object, then b also has the property of having x as its object. Therefore, in this case, the non-qualificative cognition is also qualified by the property of having a pot as its object.

[23] Here the author claims that the non-qualificative cognition which occurs just after the primary qualificative cognition may itself be taken as the second order cognition of the primary qualificative cognition which has a pot as its object, although the latter is not being revealed as qualified by cognitionhood. Hence only two cognitions will occur.

First, there will be the qualificative cognition of a pot. Second, there will be the non-qualificative cognition which has the cognition of a pot i.e., the first qualificative cognition and cognitionhood as its objects.

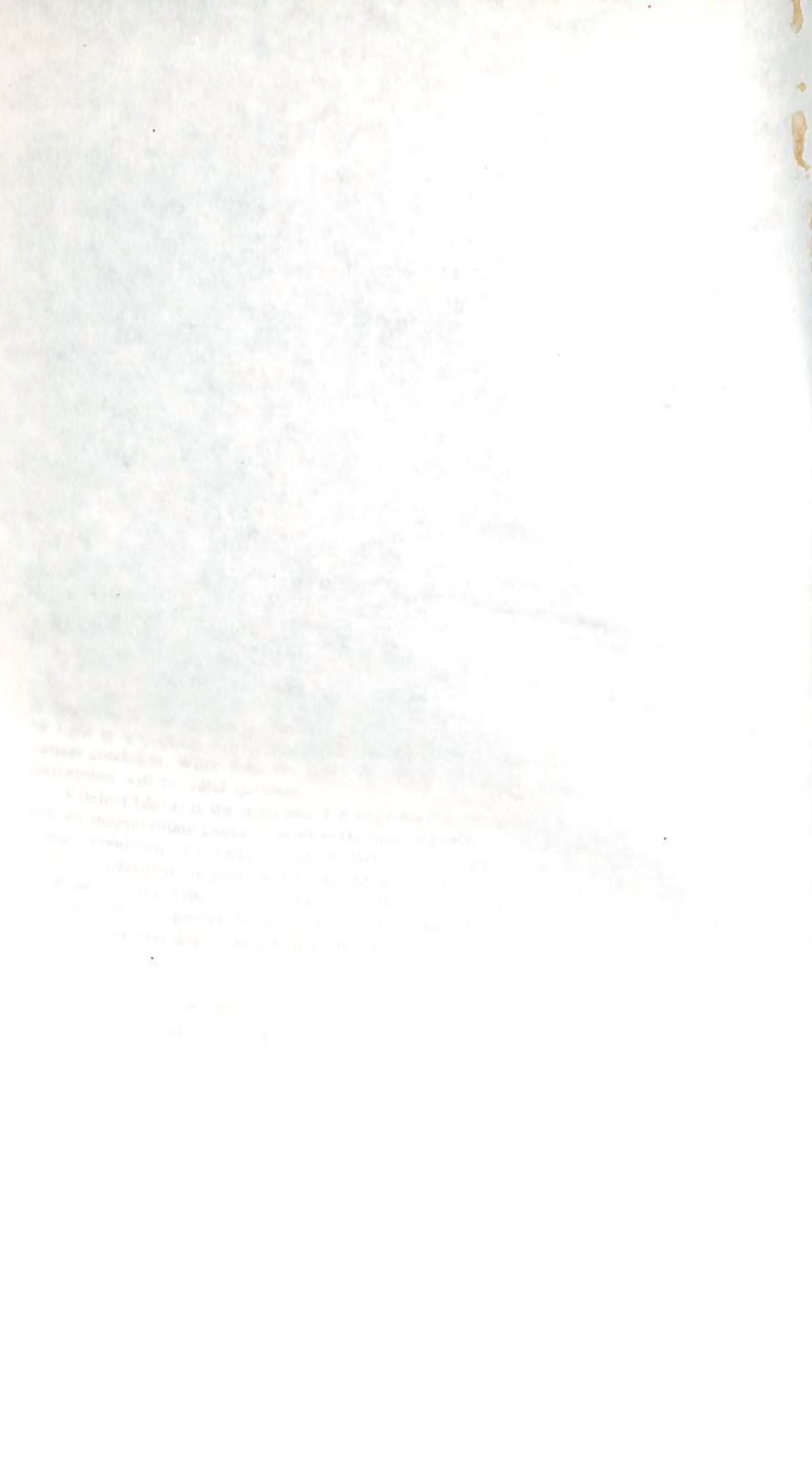
Since the second cognition is not non-qualificative with respect to the former object, it can itself be considered as the second order cognition of the initial (or primary) qualificative cognition.

[24] Here the author has mentioned two types of causal conditions such that either will produce an invalid perceptual cognition. In the case of a visual perception of an object, distance (*dūratva*) is considered a defect (*doṣa*), but the weakness of the visual sense-organ is considered an inappropriate causal condition. Now the question is how to classify these conditions of an invalid perceptual cognition.

It is to be noted that there are two types of causal conditions for the validity of a perceptual cognition. One type of causal condition is positive, while the other type is negative. For example, in the case of a visual perception, the visual sense-organ or light is a positive causal condition, but the absence of distance is a negative causal condition. When both the types of causal conditions are present, the visual perception will be valid (*pramā*).

A defect (*doṣa*) is the negatum of a negative causal condition of a valid cognition, but an inappropriate causal condition (*kāraṇavaiguṇya*) is the weakness of a positive causal condition of a valid cognition. Hence, in the case of a visual perception, if distance (*dūratva*) is present, the perceptual cognition becomes invalid (*apramā*). Similarly, if the visual sense-organ is weak or there is insufficient light, then also the perceptual cognition becomes invalid (*apramā*). Therefore, a perceptual cognition could be invalid due to either of these two types of causal conditions.

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About the book

This book is not only a commentary on Pandit Visvabandhu Tarkatīrtha's article on *anuvyavasāya* (cognition of cognition or knowledge of knowledge) but also contains explanations of several concepts which are indispensable for understanding Indian philosophy, especially the Nyāya system. The book addresses the question : How do we cognize a cognition? (How do we know that we know?)

In addition to a critical examination of 3 views on this subject, the book discusses other topics such as types of cognition, meaning, causality, perception, inference, and fallacies.

This book will be very useful to students of Indian philosophy as well as to professionals in this field for understanding some of the key concepts of logic, epistemology, and philosophy of language. Moreover, these concepts and techniques may be used for solving some of the problems of Western philosophy.

Pandit Visvabandhu Tarkatīrtha, one of the few distinguished scholars of Indian philosophy, is not only well-versed in Navya-Nyāya, but also in Vedānta, especially the Advaita Vedānta. After having taught for more than fifty years at several universities and colleges he is now a Visiting Professor at the Ramakrishna Mission Institute of Culture. A creative scholar, he has published several books and articles on Navya-Nyāya and Vedānta in Sanskrit as well as in Bengali.

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